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Motivation is an important topic of concern for teachers. A review of motivation research, though, revealed that students have been the focus of motivation research. When teachers have been included in studies, researchers have asked teachers to evaluate specific students, compared teacher and student perception of the same phenomena, or asked teachers to respond to their own *a priori* frameworks. Research on lay theories and teacher beliefs also yielded ideas important for this study. The purpose of this study was to explore teacher thinking about student motivation among middle school teachers.

I designed a multi-method qualitative study to investigate teacher thinking about student motivation at the middle school level. In the first phase, I distributed a five-item, open-ended written questionnaire to teachers in two middle schools. The second phase of the study was a multiple case study of four teachers. Through interview and observation, I investigated each teacher's lay theory of motivation. Constant comparative analysis and a coding framework grounded in motivation research were used to analyze data.

Teachers, I found, tend to define motivation in terms of expectancy. At the same time, they also tend to prioritize belonging over value and expectancy. These findings show that teachers, as a group, consider each domain to be important, and they understand the domains to interact and influence each other. Implications for teacher education, policy, and future research are discussed.

AN INVESTIGATION OF MIDDLE SCHOOL TEACHERS'
THINKING ABOUT MOTIVATION

by

Nancy Amanda Wall

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Committee Chair

For my children, Thom and Dorothy, and my godson, Kenneth.

You amaze me.

Above all, for Jeff.

in memoriam, pater mihi carissimus.

amor omnia vincit.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

Committee Chair

Samuel D. Miller

Committee Members

Colleen M. Fairbanks

Beverly S. Faircloth

Barbara B. Levin

Date of Acceptance by Committee

Date of Final Oral Examination

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

This is a study of motivation, and how middle school teachers think about motivation. In this chapter, I will explain my interest in motivation before examining trends in motivation research in terms of concepts and in terms of participants. Then I will explain key ideas from research on lay theories and teacher beliefs that inform this study. Finally, I will summarize the main findings from a pilot study with pre-service teachers. Then I explain the research questions that guide this study.

Motivation: Key Concepts and Understandings

The main topic of the study is motivation. My interest in motivation as a topic of study began when I was taking a research seminar in motivation while teaching middle school. Week after week, the concepts I learned about in seminar were brand new, even though I had been in the classroom for many years. By contrast, other topics I had learned about in various graduate courses overlapped to some degree with my teacher preparation, which I considered to have been excellent, or with school-based professional development I had had at three different schools, each of which I considered to be strong and dynamic.

Why were the concepts from the motivation seminar so novel to me as an experienced teacher? When I reflected on this question, I began to see that the *terminology* was new, and that many of the details and particulars were new; at the same

time, though, many of the ideas actually had parallels in my own thinking and practice. I had developed, for example, my own ideas and practices related to self-determination theory even though I had not heard the phrase or studied the theory before. As a teacher of an elective subject, I had developed my own lay theory related to Brophy's (1999) ideas of the value aspects of learning. Likewise, I had approached my program and students in a way that would not have been foreign to Moje's (2000) ideas about adolescents' need "to be part of the story." I began to wonder how motivation research had engaged other teachers in its development of a wide range of concepts and ideas related to motivation.

For my seminar paper, I began to research the role of teachers in motivation research. That paper was the genesis of this study. In short, I found that motivation research needed to engage teachers' voices and ideas. The research in which I became more and more conversant taught me more about motivational theories and concepts, but left me wondering how teachers thought about motivation, how teachers taught with motivation in mind, how teachers understood obstacles to motivation in students, and what teachers considered to be evidence of motivation. At one middle school conference I attended at the time, teachers flocked to a presentation about motivation—at least nominally. It turned out to be a presenter with a bag of hat tricks that may have worked that next Monday morning but would have faded from power by Friday. The fact, though, that teachers filled the room to capacity was another indicator to me that teachers thought about motivation and wanted to support it in their students. There are other indicators that teachers are interested in motivation. The International Reading Association's *What's*

Hot list for 2010 showed that 75% of respondents ranked motivation and engagement as a topic that was “not hot”; at the same time, 75% of respondents *also* ranked motivation and engagement as topic that “should be hot” (What’s Hot for 2010 chart; downloaded from www.reading.org). Motivation is of interest to teachers.

My interest in motivation research is rooted in my classroom experience and extends to other areas, especially middle grades, that interest me. As I researched motivation, I sought to understand how motivation had been studied, with whom it had been studied, and how it had been studied. In the back of my mind was the question: why had I not learned about motivation either in my own teacher preparation program or in my schools? In the front of my mind was the driving question: what do teachers think about student motivation? From my own learning and experience, I had developed my own lay theory of motivation; I was eager to see (1) what the literature revealed; (2) how my own lay theory mapped onto the literature; (3) what other teachers’ lay theories were; (4) and how their lay theories mapped onto the literature. Those questions inform the organization of this literature review, which first considers main ideas from motivation research, then the types of participants and domains studied through motivation research, and then ideas about teacher thinking. All these ideas, together, led to the design of the study.

The guiding query concerns what teachers know about student motivation. Specifically, I wanted to understand what teachers thought about motivation and how they promoted motivation in their classrooms. I began a review of the literature with a goal of understanding trends in motivation research as they ultimately relate to what

teachers think about motivation and how teachers learn about and form their theories of motivation. A review of current understandings from motivation research will provide a background to my review of motivation research and my consideration of motivation in representative teacher education programs.

Current definitions of motivation emphasize that motivation is a process (Schunk, Pintrich, and Meece, 2008) inferred through actions and behaviors (Eccles and Wigfield, 2002; Stipek, 2002); many definitions relate motivation to goals (Brophy, 1999b; Eccles and Wigfield, 2002; Schunk, Pintrich, and Meece, 2008). I follow the definition of motivation offered by Schunk, Pintrich, and Meece: “Motivation is a process whereby goal-directed activity is instigated and sustained” (2008; p. 4). I selected this definition because it reflects, in clear language, main understandings of motivation from the research literature; this definition also emphasizes that motivation is a process. Schunk, Pintrich, and Meece (2008) elaborate that motivation is not observed directly but inferred from what people say and do. Current definitions of motivation understand it to be a state rather than a trait and therefore changing (and changeable) rather than fixed; thus context plays an important role in motivation (cf. Paris and Turner, 1994). Motivation as a topic of study includes many constructs and theories. While a trend in recent motivation research has been to explore and examine narrower, mini-theories of motivation (Graham and Weiner, 1996), this study has examined teachers’ big-picture ideas about motivation. Even though the study focused on teacher thinking about student motivation on a general level, it has been helpful to understand some of the particular domains and concepts

related to motivation in order to formulate the research questions, design protocols, plan analysis, and interpret findings.

I organize this review of key concepts and understanding from motivation research based on two sources that have been very important for my understanding of motivation as well as the design of this study. First, Brophy (2010; cf. 2008) offers the idea of an “informal general model” of expectancy, value, and social milieu as a way to understand many theoretical concepts in a way that “emphasizes their commonality and complementary implications for teachers, not their differences” (2010; p. 18). Second, Turner and colleagues focused a recent study around the concepts of competence, autonomy, belongingness, and meaningfulness because “these principles cut across prominent theories of motivation, suggesting their centrality to fostering motivation in the classroom” (Turner, Warzon, and Christensen, 2011, p. 720). I combine and collapse these categories to yield three broad domains: expectancy (which encompasses competence and autonomy); value (which is related to meaningfulness), and belonging (a more common term that accounts for “social milieu” and “belongingness”). Motivation research is highly complex and diversified, yet we can understand motivation as three main domains: expectancy, value, and belonging. Each of these domains relates to a key question; a definition also is included:

- Expectancy: *Can I do it?*; Expectancy is “an individual’s belief concerning the likelihood that a particular reinforcement will occur following a specific behavior” (Schunk, Pintrich, and Meece, 2008, p. 376).

- Value: *Do I want to?*; An understanding of value is an understanding of the subjective reasons or beliefs a person may have about a task or idea (cf. Schunk, Pintrich, and Meece, 2008).
- Belonging: *Do I belong?*; Two aspects of belonging are “frequent personal contacts or interactions” and the perception of an interpersonal bond or relationship “marked by stability, affective concern, and continuation into the foreseeable future” (Baumeister and Leary, 1995, p. 500); in other words, the need “to be part of the story” (Moje, 2000).

Each domain has been examined and described through research.

Expectancy

The domain of expectancy has received the bulk of attention of motivation research. Expectancies are defined as “people’s beliefs and judgments about their capabilities to perform a task successfully” (Schunk, Pintrich, and Meece, 2008, p. 44). Eccles and Wigfield and colleagues (e.g., 2002; Eccles, Wigfield, et al., 1993; Eccles et al., 1991; Wigfield, Eccles, et al., 1997) have developed the expectancy-value theory of motivation, which states that expectancy and value are the two most important predictors of achievement behavior. Three concepts related to expectancy that are current in the research are goal theory, self-regulation, and self-efficacy.

Goal Theory. Goal theory relates to the reasons individuals do (or do not do) certain actions. A goal is defined as “the behavior (outcome) that one is consciously trying to perform (attain)” (Schunk, Pintrich, and Meece, 2008, p. 377). Pintrich (2000) found a link between students’ mastery goals and their self-efficacy. Past research has

elaborated on two types of goals. Mastery goals (also called learning goals or task goals) are goals focused on acquiring knowledge or skills (Brophy, 2010; Dweck, 2006). By contrast, performance goals (also called ego goals) are related to desires to get a good grade, save face, or avoid failure (Brophy, 2010; Dweck, 2006). Generally, research (e.g., Darnon, Dompnier, Gillieron, and Butera, 2010; Dowson and McInerney, 2001; Patrick, Kaplan, and Ryan, 2011) has privileged mastery goals, and findings from research have emphasized the need for teachers to encourage students to adopt mastery goals. More recent research by Harackiewicz and colleagues (e.g., Harackiewicz, Barron, and Elliot, 1998; Harackiewicz, Barron, Pintrich, Elliot, and Thrash, 2002) has suggested that performance goals can support mastery goals. All the same, Brophy emphasized that “there is reason to believe that whatever benefits performance goals may add to mastery goals resides in their focus on outcomes rather than self-validation,” which he related to a disposition to direct one’s effort and resources towards maximizing achievement rather than impressing teachers and peers or avoiding failure (Brophy, 2010, pp. 79-80).

Walker and Greene (2009) examined links between student perceptions of goals, self-efficacy, “perceived instrumentality”, classroom work, and sense of belonging. They found that perceived instrumentality, self-efficacy, and belonging predicted the adoption of mastery goals; they also found that a classroom with a mastery focus predicted a student’s sense of belonging. In a similar vein, Kaufman and Dodge’s (2009) study of undergraduates found that students’ mastery goals predicted belonging in the course as well as value of the course. These studies further research in goal theory and support the idea that domains of motivation overlap and inter-relate.

Self-Regulation. A second area of motivation research under the broader heading of expectancy is self-regulation. Self-regulated learning is commonly defined as personally activating and sustaining behaviors, cognitions, and affects toward the attainment of goals (Ormrod, 2007; Schunk, Pintrich, and Meece, 2008; Zimmerman, 1994; 2008). Eight specific strategies for self-regulated learning, based in Ormrod (2010), are: goal setting, planning, self-motivation, attention control, flexible use of learning strategies, self-monitoring, appropriate help-seeking, and self-evaluation. Self-regulated learning also involves the conceptual processes, from social cognitive theory, of self-observation, self-judgment, and self-reaction (Bandura, 1986; Schunk, Pintrich, and Meece, 2008). Self-regulated learning is important because it has been connected to higher mastery goals for learning (Pintrich, 2000).

Self-Efficacy. A third area of motivation research under the broader heading of expectancy is self-efficacy. Self-efficacy is “one’s perceived capabilities for learning or performing actions at designated levels” (Schunk, Pintrich, and Meece, 2008, p. 379.). Bong (1997, 1998) studied students’ self-efficacy by asking students to rate their perceived abilities to solve different kinds of academic tasks; students who rated themselves higher in self-efficacy rated themselves higher in ability to solve academic tasks. As Pajares (2008) stated, “People with a strong sense of self-efficacy approach difficult tasks as challenges to be mastered rather than as threats to be avoided” (p. 113). Self-efficacy is related to expectancy in that students with higher self-efficacy have higher expectancy of success.

Expectancy is related to an individual's ideas about her or his capacity to do a certain activity and be successful. Research in the areas of goal theory, self-regulation, and self-efficacy has yielded important constructs and insights for researchers, teachers, and teacher educators. Eccles, Wigfield, and colleagues have advanced an expectancy-value theory of motivation that remains powerful in motivation research. Teachers who favor an expectancy-related thinking about motivation may frame their classroom environment and talk in terms of success, achievement, or accomplishment. They may make goal-setting a feature of their classrooms by coaching students to set goals, monitor progress, and evaluate accomplishment. They may foster self-efficacy by calling students' attention to their growth and skill acquisition. A former superintendent and evaluator of mine encouraged me to believe in and state this mantra to students: "This is hard. You can do it. I believe in you." Such a message aligns with an expectancy-related view of motivation.

Value

An understanding of value is an understanding of the subjective reasons or beliefs a person may have about a task or idea (Schunk, Pintrich, and Meece, 2008); Brophy (e.g., 2008) related value to ideas of why students care about a particular topic or how they think about what they will get out of a particular topic. Although value is part of Eccles and Wigfield's (e.g., 2002) expectancy-value theory of motivation, Brophy (1999) contended that we know much more about expectancy aspects of motivation than value aspects. He attributed this in part to the fact that value can be difficult to isolate and to operationalize through a study. He also noted (2010) that value is conceptualized in ways

that limit its applicability and that tend to focus on utility value over ideas such as satisfaction, awareness, or appreciation. Expectancy tends to relate to grades, while value relates more to voluntary engagement. Value also relates to perceptions of relevance or meaning and to voluntary engagement beyond the classroom.

Blumenfeld and colleagues (1991, 1992) advocated project-based learning as a means of scaffolding value for students. In one study (Blumenfeld, Puro, and Murgendoller, 1992), they highlighted four aspects of tasks that supported value and students' motivation to learn: opportunities to learn, high teacher expectation (or "press"), teacher support, and an approach to assessment that emphasized learning and understanding over specific right or wrong answers. Durik, Vida, and Eccles (2006), in a longitudinal study of students from fourth grade through tenth grade, tracked students' task beliefs about reading choices over time. They found that students who rated reading as important tended to take more Language Arts courses and to think about careers related to reading; students who rated reading as intrinsically valuable reported more leisure time spent reading over time. Ozgungor and Guthrie (2004) found that students reported higher interest in texts that called on their previous interests and prior knowledge.

Value is important because of its relation to relevance, meaning, and voluntary engagement (Brophy, 2010)—all desirable aspects of learning that we would like to see in all students. Brophy thought that teachers should scaffold students' appreciation for what is taught in schools but admitted that "theory and research on motivation in education do not have much to say about how to help students appreciate the value of

what they are learning” (2008, p. 133). He then proposed the idea of the motivational zone of proximal development (ZPD) and outlined how teachers could scaffold appreciation and value within the framework of the motivational ZPD by considering a general model of situated activity and motivational considerations. The general model of situated activity includes considerations regarding situation, activity, and roles; the motivational considerations include motive (or reasons for the activity), goal (intended outcome of the activity) and strategies to support the motive and goal. Both components of this model depend on the teacher’s understanding of the students’ motivational ZPD’s and her ability to understand what schemata the students have and how to connect and scaffold ideas within those schemata.

A teacher who favors value-related thinking about motivation keeps a focus on the reasons why students would learn particular content or topics and the applications and uses those content or topics would have. A teacher also may focus on students’ interests or be able to convey a sense of aesthetic appreciation for the content. Many successful teachers convey an aesthetic appreciation while also relating content to students’ lives and interests as well as current events and issues. Teachers I know ask students to write a content-area biography at the beginning of the year to understand how each student sees himself as a student of math, science, or other content. Other teachers give students reading interest inventories. These types of tasks give students the opportunity to share and teachers the opportunity to understand what different students value. As a former Latin teacher, for example, I emphasized the connections that students would make between Latin and English or the Romance Languages, exemplars from ancient history

that could help us understand our world, and how themes in Greek Myth, Vergil, or Ovid transcend time and place.

Belonging

Belonging, sometimes referred to as “relatedness” or “belongingness”, has two main aspects: “frequent personal contacts or interactions” and perception of an interpersonal bond or relationship “marked by stability, affective concern, and continuation into the foreseeable future” (Baumeister and Leary, 1995, p. 500; cf. Goodenow, 1993; Juvonen, 2006). Belonging research has become more popular in recent years. One landmark study of belonging is Moje’s (2000) study of “gangsta” adolescents who took on alternate, out-of-school literacy practices out of their need “to be part of the story”. Faircloth (2009, 2012) has explored the ways in which teachers can frame academic tasks to “harness” student identity and thus support student belonging in school. Drawing from sources such as Fairbanks (2000), she has worked with a teacher to design, implement, and reflect on student inquiry projects that connect learning tasks with students’ lives in order to create a third space (Moje, Ciechanowski, Kramer, Ellis, Carrillo, and Collazo, 2004) while keeping tasks aligned with the standard curriculum (Faircloth, 2012). These projects were found to support students’ identities-in-practice through engagement in learning. A recent review of research (Yeager and Walton, 2011) on social-psychological interventions, including efforts to increase students’ sense of belonging, determined that these programs have lasting effects and can be related to students’ academic success.

A teacher who favors belonging-related thinking about motivation would make relationships and caring (Wentzel, 1997, 1998) a priority in the classroom. These relationships would be among students, between the students and the teacher corporately and individually, and between the students and the curriculum. One local teacher introduces her sixth-grade students to the strands of Social Studies by assigning each student to create a poster about a country important to her/him and to explain aspects of the country such as its history, geography, language(s), culture, customs, foods, and holidays. Through this project, which is assigned toward the beginning of the course, the teacher learns more about her students and their backgrounds and interests; the students learn more about one another; all students are able to showcase a place that is important to who they are and how they identify themselves in and out of school. Advisory, once a core part of the middle school model, also can support student belonging by focusing on students' affective development and their overall fit and place within school (Crawford, 2008).

Belonging research is newer, and much of it is exciting for its ideas linking expectancy and value through belonging. While each of these domains is important on its own, understanding how these domains inter-relate is also important for a conception of motivation. These key concepts from motivation research serve as a background to my systematic review of recent motivation research.

To recap, there are three domains of motivation: expectancy, value, and belonging. Expectancy is related to an individual's belief concerning a likely outcome of a specific event (Schunk, Pintrich, and Meece, 2008) and is related to the question, "Can

I do this?” Much motivation research focuses on expectancy because it is related to students’ success in school; methodologically, it is easier to operationalize and study expectancy than value and belonging. Because it is difficult to frame an intervention study about value, for example, there is far less research on value aspects of motivation. Value is related to the reasons an individual has for doing a particular activity (Schunk, Pintrich, and Meece, 2008) and is related to the question, “Do I want to do this?” Brophy’s (2008) ideas about scaffolding appreciation and the motivational ZPD provide useful frameworks for future research related to value. Belonging is associated with an individual’s sense of fit, place, and relationships within a group or groups and is related to the question, “Do I belong?” An understanding of motivation according to these three domains frames my review of the literature.

Motivation: Review of Motivation Research

With these basic ideas about domains of motivation in mind, I turned to the literature to understand how teachers had been a part of motivation research. Teachers are central to what happens in classrooms. It follows that teachers think about motivation as part of their overall thinking. Stipek (2002) wrote, “Motivation theories are important to discuss because everyone has them. And consciously or unconsciously, people rely on their theories of what causes behavior when decided to try to change their own or another’s behavior” (p. 8). Because teachers are concerned, implicitly or explicitly, with keeping students engaged in learning, it follows that they do consider motivation as part of their thinking. Since teachers think about motivation, I wanted to learn *how* and *what* teachers think about motivation. In reviewing motivation research, I was interested to see

how teachers were involved and what findings revealed about teacher thinking about motivation. Before beginning the literature review, I anticipated finding studies that showed how teachers applied certain findings from previous research in their classrooms. I also anticipated finding studies in which researchers asked teachers to explain what they thought about motivation and how their teaching carried out those ideas.

Developing an understanding of teachers' knowledge about motivation appeared initially to be a daunting task due to the high number of research studies on motivation. Having familiarized myself with large trends in motivation research, I took on a systematic approach; I was particularly interested to understand how teachers had been a part of motivation research. First, I did a thorough vertical review of motivation research in two key journals. The vertical search came first so that I could identify and follow trends in motivation research over time. By searching two key journals, I hoped to gain a sense of the development of motivation research in recent years. Then, I conducted a systematic horizontal search of more motivation research through research databases. These searches together yielded more than 800 articles from more than thirty journals, giving this search both depth and breadth of scope.

For the vertical search, I read every article about motivation published from 1997 through the present in the *American Educational Research Journal* and the *Journal of Educational Psychology*. I focused on articles about new research, rather than theoretical pieces, syntheses and meta-analyses, or proposals for future research. The theoretical pieces informed my own knowledge base and told me the “what” and “why” factors involved with a range of motivational constructs; I focused on the research articles in

order to understand the “how” and “who” factors involved with motivational factors. I chose these two journals because one is the top educational research journal and the other is the top journal in educational psychology; I understand that motivation research appears in a wide range of journals, and my horizontal review of the literature gave breadth of scope to this review. My database search yielded very many references from these journals, the *Journal of Educational Psychology* in particular, which reflects the prominence of the journals for motivation research. To gain depth, I selected these two journals to get a sense of the development of our knowledge of motivation through recent years. I charted the articles according to the type(s) of participants in the study (i.e., students, teachers, peers, parents, or a combination); by the domain(s) and aspect(s) of motivation under consideration; and by research methodology. The aspect of motivation under consideration was labeled according to three main domains of motivation: expectancy, value, and belonging (cf. Brophy, 2010). I charted the studies so I could determine how researchers have studied motivation: (1) to determine what type(s) of participants had been involved in motivation research; (2) to understand what methodologies had been used to in motivation research; (3) to see what domains of motivation had been foci of research. The main interest, though, was in identifying those studies in which researchers asked teachers what and how they thought about motivation and how they supported motivation through their teaching.

Motivation research involving teachers was the focus of my search, and I found that most studies from these two journals ($n = 164$; 72%) focused exclusively on students; they are the only participants or sources of data in the study. Of those studies,

102 (62.2%) focused only on expectancy aspects of motivation such as goals (e.g., Bong, 2009; Elliot and Murayama, 2008; Urdan, 2004), self-efficacy (e.g., Friedel, Cortina, Turner, and Midgley, 2010; Pajares, Miller, and Johnson, 1999), and self-regulation (e.g., Brunstein and Glaser, 2011; Wolters, 2003). Twenty-one studies (12.8%) focused only on value aspects of motivation (e.g., Durik, Vida, and Eccles, 2006; Ozgungor and Guthrie, 2004), and nineteen (11.6%) looked only at belonging aspects of motivation (e.g., Hardré and Reeve, 2003; Marsh, Martin, and Cheng, 2008). Other studies of motivation with student participants had multiple foci: expectancy and value (seven studies; 4.3%), expectancy and belonging (twelve studies; 7.3%), or value and belonging (three studies; 1.8%). An additional eight studies (3.5% of total studies located) included data from students and their parents.

Having determined that most motivation research involved only students, I examined those studies that did include teachers. Of those studies, forty-two (18.3% of studies located) included students and teachers, while fifteen (6.6% of studies located) included only teachers. That is, less than seven percent of studies of motivation included teachers as the only participants. Quite surprisingly, I found that when researchers sought teachers' participation, they usually did so in one of three main ways: (1) to ask for an evaluation of particular students; (2) to compare student and teacher perception of the same phenomena; or (3) to obtain teachers' views on researchers' own narrow *a priori* constructs.

Studies that asked teachers for an evaluation of particular students include Cole, Maxwell, and Martin, 1997; Hughes, Luo, Kwok, and Loyd, 2008; Onatsu-Arvilommi

and Nurmi, 2000; Valiente, Lemery-Chalfant, Swanson, and Reiser, 2008; Wigfield, Eccles, Yoon, Harold, Arbreton, Freedman-Doan, and Blumenfeld, 1997. Example studies that compared student and teacher perception of the same phenomena include Linnenbrink, 2005; Ryan, Gheen, and Midgley, 1998; Skinner, Furrer, Marchand, and Kindermann, 2008; Taylor and Ntoumanis, 2007. Studies designed to obtain teachers' views on the researchers' own narrow *a priori* constructs include Guthrie, Van Meter, Hancock, Alao, Anderson, McCann, 1998; Goddard, Hoy, and Woolfolk Hoy, 2000; and Wolters and Daugherty, 2007. These categories are synthesized below.

In studies where teachers are typically asked to evaluate particular students, they typically ranked them about expectancy-related concepts such as mastery motivation (Turner and Johnson, 2003), competence (Onatsu-Arviolommi and Nurmi, 2000), learning behavior or achievement (McDermott, Mordell, and Stoltzfus, 2001; Taylor and Graham, 2007); value-related concepts such as effort (Hughes, Luo, Kwok, and Loyd, 2008; Valiente, Lemery-Chalfant, Swanson, and Reiser, 2008); or belonging-related concepts such as relatedness (Furrer and Skinner, 2003; Wentzel, Barry, and Caldwell, 2004). In each of these studies except two (Sweet, Guthrie, and Ng, 1998; Wigfield, Galper, Denton, and Seefeldt, 1999), student data was collected along with teacher data; some studies also included parent data. The majority of these studies used quantitative methods, with a few exceptions. For example, Usher (2009), in her study of middle school students' self-efficacy in math, interviewed eight students along with their parents and teachers. More typical studies such as Cole, Maxwell, and Martin (1997) evaluated perceived competence. In this study, forty-nine teachers used a Rating Scale of Child's

Actual Behavior to assess students' competency; this survey was adapted for parents, and peer nominations also were used along with students' completion of the Self-Perception Profile for Children. Wigfield, Eccles, and colleagues (1997) did a study that asked teachers for evaluations of particular students. They wanted to understand how children's competence beliefs and subjective task values changed over a three-year period in elementary school. During this longitudinal study, they asked students to rate their competence beliefs and subjective task values of math, reading, instrumental music, and sports; they used questionnaires with Likert-style items. The researchers also asked teachers and mothers to rate each child along similar measures. Teachers completed questionnaires with items such as "How well do you expect this child to do next year in [domain]?" (p. 454); they recorded responses on a seven-point scale. They found that students' rating of their competence beliefs and subjective task values gained stronger associations with their teachers' and mothers' ratings over time; they found the mothers' ratings had a stronger association with the students' ratings than the teachers' ratings did. The researchers' data supported other work that showed that younger children have more optimistic self-evaluations, while older children tend to grow more realistic in their self-evaluations.

While these studies vary in their focus and methodology, they included teachers only to give data on specific students. Of these studies, eighteen focus only on expectancy aspects of motivation (e.g., Guay, Marsh, and Boivin, 2003; Harris, Graham, and Mason, 2006), one focused on value aspects (Graham, Taylor, and Hudley, 1998), and three focused on belonging aspects (Furrer and Skinner, 2003; Hughes, Luo, Kwok,

and Loyd, 2008; Wentzel, Barry, and Caldwell, 2004). Two studies focused on expectancy and value (Wentzel, 1998; Wigfield, Eccles, et al., 1997), two studies focused on expectancy and belonging (Ryan and Shim, 2008; Trouilloud, Sarrazin, Bressoux, and Bois, 2006), and one focused on value and belonging (Taylor and Graham, 2007).

The second category of studies of motivation that involve teachers compared student and teacher perceptions of the same phenomena. Taylor and Ntoumanis (2007) studied teachers' motivational strategies in PE through a self-determination theory framework. They gave 51 PE teachers questionnaire with items on a seven-point scale; items addressed teacher perceptions of autonomy, support, structure, and involvement; self-determination to teach PE; and teacher perception of student self-determination. This data from teachers was compared with data from their 787 students about student perception of teacher autonomy, support, structure, and involvement. Skinner, Furrer, and colleagues (2008) did a study that compared students' and teachers' perception of the same phenomenon in their study of engagement and disaffection in the classroom. Using the self-system model of motivational development (SSMMD), they surveyed students and teachers over time and included data from 805 students and 53 teachers who had data for each collection time. Students completed self-report questionnaires on items related to engagement versus dissatisfaction, sense of perceived competence, autonomy, relation to teacher, and support from teacher. The teachers completed fourteen-item self-report questionnaires on each of their students about the support they gave students in terms of involvement, structure, and autonomy. Sample items were "I try to be clear with this student about what I expect from him/her in class" and "This student is easy to like."

Analysis showed that high marks of teacher support, from students and teacher, correlated with high marks on the four indicators for engagement on the students' SSMMMD. This is an example of a study that compared student and teacher perception of the same phenomenon, namely, teacher support.

I located fifteen studies of motivation that included only teachers as participants. Of those, two (Sweet, Guthrie, and Ng, 1998; Wigfield, Galper, Denton, and Seefeldt, 1999) asked teachers to evaluate specific students and are counted in the first category above. The remaining thirteen studies asked teachers to respond to the researchers' narrow *a priori* constructs, the third category of studies involving teachers. The collective purpose of these studies is to understand or explain certain processes or phenomena related to motivation. Teachers' views in and of themselves were not the topic of study.

Goddard, Hoy, and Woolfolk Hoy (2000) did a study of teachers' views of their *a priori* constructs of collective teacher efficacy. They first developed a model of collective efficacy and then designed an operational measure found to have reliability and validity. Then they used the measure in various urban elementary schools to compare teacher collective efficacy to student achievement in math and reading. Drawing on social cognitive theory (Bandura, 1986; 1997), they associated collective teacher efficacy with tasks, level of effort, persistence, shared thoughts, stress levels, and achievements of groups. Following Tschannen-Moran and colleagues (1998), they highlighted two key elements of collective teacher efficacy: analysis of teaching task and assessment of teaching competence. They developed a measure of collective teacher efficacy that included items about group competence and task analysis; the items were statements such

as “Teachers in this school can reach a difficult student” that teachers ranked along a six-point scale. They found that higher collective teacher efficacy was a “significant predictor” of student achievement in math and reading among their sample schools. This study is an example of researchers asking teachers to respond to their own *a priori* constructs. In a recent and important study of teachers’ beliefs about motivation, Turner, Warzon, and Christensen (2011) gathered six math teachers for a year-long study. During the study, Turner and colleagues lead monthly meetings during which teachers learned about four processes related to motivation (competence, autonomy, belongingness, and meaningfulness) and then developed strategies and goals to support these processes in their students and classrooms. Observations and interviews accompanied these meetings as the researchers looked “patterns of change”, or ways that teachers modified their beliefs about motivation over the course of the year, among three key teachers in the group.

Finnigan and Gross (2007) used a mixed-methods approach in their study of teacher motivation in reaction to No Child Left Behind (NCLB). They conducted interviews and focus groups with 133 teachers and developed a survey that 269 additional teachers completed. This study used interviews and focus groups required teachers to respond only in terms of motivation and NCLB. Far more common in this category of studies with teacher participants are studies that employ questionnaires and surveys in which respondents rate items rather than elaborate on them. Several studies represent this type of research, and the majority of these focused on expectancy-related aspects of motivation. Chan, Lau, Nie, Lim, and Hogan (2008) gave 3,715 teachers an online survey

about teacher efficacy and commitment; all items were Likert-type items. Feltz and colleagues gave 517 teachers who were also coaches a ranked-item survey to develop a scale of coaching self-efficacy (Feltz, Chase, Moritz, and Sullivan, 1999). Cai, Reeve, and Robinson (2002) mailed surveys with questionnaires to 71 home-school teachers, 76 public school teachers, and 76 university education students in order to compare motivating styles of home-school teachers and public school teachers (and teachers-to-be). These studies are informative but still show how teachers' responses are constrained by the researchers' often narrow frameworks for analysis. Turner and colleague's (2011) study had the broadest framework for analysis and as such has been very influential on this study.

In summary, the majority of studies of motivation in my vertical search focused on students as participants. When teachers have participated in motivation research, their participation falls into one of three categories – to evaluate particular students; to compare student and teacher perceptions of the same phenomena, or to respond to researchers' narrow *a priori* frameworks. While I hoped to find studies of teachers' understandings of motivation and how it is promoted in their classrooms, none were found in the *American Educational Research Journal* or the *Journal of Educational Psychology* from 1997 through the present. These studies have added a great deal to our knowledge about motivation, but very few involved teachers at all. No study was found on what teachers think about what motivation is, how it works, how students are and are not motivated, and what counts as evidence of motivation.

Even though this thorough, exhaustive vertical search of two top journals of educational research yielded no study of the type for which I was searching, I remained unconvinced that there were no studies of teacher thinking about student motivation. I embarked on a second, broad search of research through databases (cf. Fives and Buehl, 2012). To do this search, I consulted with two reference librarians. I used the EBSCO general database and searched Education Full Text, PsycARTICLES, PsycINFO, and the Teacher Reference Center. I limited results to full text articles in peer-reviewed journals from 1997 to the present. First I searched “motivation AND teacher thinking” as subjects (a search strategy that is more expansive than searching by title). No results were found. Then I searched “motivation OR teacher thinking” and got more than 10,000 results. I narrowed the search to “student motivation OR teacher thinking” and got 201 results, many of which highlighted only the word “student”. I scanned the results, noting that many of them were articles from the *Journal of Educational Psychology* that I had reviewed already. Another search of several research databases using “motivation” and “engagement” as primary descriptors revealed hundreds of references. Specific search terms included “motiv*” and “engag*” to catch various forms of each word (cf. Rex, Bunn, Davila, Dickinson, Ford, Gerbin, Orzulak, and Thomson, 2010). These searches resulted in more than 6,000 articles when I set the date parameters from 1997 to the present. I scanned the abstract of each article to determine its relevance to this literature review. If the article described a research study, or if it was a theoretical piece about motivation, I read the full article. I then completed a similar search, substituting “student engagement” for “student motivation”. This search yielded 417 articles, which I scanned

using similar filters as described above. Again, many results included studies from the *Journal of Educational Psychology* with which I was familiar already. At the same time, I also ran a search using “teach* think*” and “teach* belie*” to gain a better grounding in the research on teacher thinking (presented farther below). I read scores of articles from more than thirty journals to examine what these studies might tell me about teachers’ knowledge of motivation. I read specifically to identify studies where researchers asked teachers to describe or explain their views on motivation.

Again, I first looked for studies of motivation rather than syntheses or theoretical pieces, but I did explore additional theoretical articles. Having established that many motivation studies concentrate on student populations, I did not explore studies that included students alone as participants unless the research questions dealt specifically with teachers. I did not look at studies based on college-age populations unless the participants were pre-service teachers positioned as teachers-to-be, or the methodology included case study or qualitative measures. As with the earlier search, I sought to categorize the studies by the domains of motivation under investigation, the participants, and the methodology. In other words, I wanted to see how teachers participated in motivation research: what questions were asked, what teachers did, and how teachers were involved in the study. Similar to my first search, I divided the articles by the ways in which teachers participated: (1) to ask for an evaluation of particular students; (2) to compare student and teacher perception of the same phenomena; or (3) to obtain teachers’ views on researchers’ own narrow *a priori* constructs.

Through this horizontal search, I found a few additional studies of note that included teachers as participants; however, each of these limited the type and scope of teachers' responses to the motivational construct(s) under investigation. Negru and Damian (2010) used the Patterns of Adaptive Learning Scales (PALS; Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, and Kaplan, 1996) in a sample of middle school students and teachers to explore achievement goal orientations. They measured teacher and student goal orientations using PALS and compared the two groups to find students' ideal or preferred teachers give students an idea of whether or not they are meeting goals. Quirk, Unrau, and colleagues (2010) similarly gave teachers a survey about reading motivation. Bernaus and Gardner (2008) asked almost 700 Spanish teachers and students of EFL (English as a Foreign Language) to rate the frequency of use of 26 motivational strategies; they found that teachers' reports of strategy use did not influence any of the coefficients of items in their path analyses, but that students' reports (or perceptions) of strategy use had a positive effect on the predictability of motivation and achievement in English. Hardré and colleagues (2006, 2008) have investigated teacher perceptions of student motivation, but they have used *a priori* measures and large sample sizes which did not allow them to probe participants' responses. Klassen, Perry, and Frenzel (2012) measured teachers' relatedness to students as a component of their own belonging in the classroom, but there was not an investigation of teachers' understandings of belonging (a large sample size and narrow *a priori* measures were used). These studies, again, show the slant toward large numbers of participants, one-time measures, and survey measures

common in motivation research. They merit mention because of their focus on teacher perceptions of various motivational constructs.

One additional study of pre-service teachers (Mansfield and Volet, 2010) focused on the development of the pre-service teachers' beliefs about motivation. Over a ten-month period, the researchers tracked the development of pre-service teachers' beliefs about motivation in response to course work and internships. They found that pre-service teachers' prior beliefs and experiences acted as a filter for new information and also caused conflict with coursework and internship experiences. This study was important for its methodology; it focused on the development and trajectory of pre-service teachers' beliefs. I, though, was hoping to understand what teachers' developed thinking about motivation might be.

Having reviewed and read nearly seven hundred articles on motivation in more than thirty journals, I was not much closer to answering my main question: what do teachers think about student motivation? The more I read, the more I learned, and the more I became convinced that the study I was designing had potential to add to motivation research in its focus on teachers and in its focus on their grand, all-encompassing lay theories of motivation.

In summary, research studies focus mainly on students, rather than teachers; when teachers are the main participants, their participation is often constrained by the research design. It is significant that there seem to be no studies of teachers' *own* views in relation to motivation as found through this search. Thus, there is not much known about how the most important person in the classroom understands and thinks about motivation. The

lack of studies of teacher thinking about student motivation reflects both researchers' focus on students and on confirming what is known about constructs and theories. This lack also supports the need for more studies that focus on teachers' beliefs, thoughts, and understandings regarding motivation and a better idea of how teachers operationalize their beliefs about motivation as they plan, teach, and assess students.

Motivation and Teacher Education

While I was reading the research, I began to wonder if my experience in teacher education had been unique in the sense that I had not learned about motivation formally. Perhaps, I wondered, it is common for pre-service teachers to learn about motivation. Maybe, I thought, motivation was such a common topic of study in teacher education that the field, in a sense, already knew what and how teachers thought about motivation. I decided to investigate how and whether motivation is a common or given topic of study in representative schools and colleges of education. To that end, I investigated the websites of the schools of education ranked in the top twenty-five by *U.S. News and World Report* (cf. Rupp-Serrano and Robbins, 2013) for the years 2010 and 2011. For each ranked school, I looked for information about certification programs for undergraduates or newly-licensed teachers. Programs that led to certification in regular education in academic content areas in grades K-12 were the focus of the search; accordingly, programs leading to certification in special education, physical education, music, or art were left out, as were programs aimed at early childhood education or higher education. Because some schools shared a ranking, and because rankings for two years were used, a total of twenty-seven websites of schools of education were searched

for available online information, such as mission statements, thematic foci, course requirements, or syllabuses. Rankings for colleges of education at the graduate level were used because rankings at the undergraduate level were not available. Even though graduate rankings were used to determine which schools of education would be considered, only programs leading to initial licensure in teaching were searched for evidence that motivation is a focus of teacher education.

Many schools of education required courses that could include motivation as a topic of study, but there was not clear and consistent evidence from the websites that motivation is a topic of study at these representative schools of education. There are several courses that may include motivation as a topic of study. Course titles, and the schools of education that offer courses with those titles, include: Adolescent Development (Harvard Graduate School of Education, Indiana University, University of Pennsylvania, Vanderbilt); Adolescent Learning and Development (University of Virginia); Child Development (Boston College, Stanford), Development of the Young Child (University of Pennsylvania); Developmental Psychology (Harvard Graduate School of Education, Michigan State, University of Michigan, Vanderbilt); Educational Psychology (Indiana University, Michigan State, Vanderbilt); Human Development (Johns Hopkins, University of Pennsylvania); Learning, Development, and Assessment (University of Minnesota); and Psychological Foundations (Vanderbilt). Some schools did have material on their websites that proved that motivation is a topic of study for pre-service teachers. At the University of Oregon, students in some certification programs at the elementary, middle, and high school levels include a course titled “Motivation and

Management”; a syllabus was not available through the website. In addition the school’s UOTeach Professional Growth Assessment (downloaded from the website) lists “attention to motivation” as an expected skill in the classroom climate domain on which pre-service teachers are ranked. At Johns Hopkins University, undergraduate pre-service teachers in the STEM program at the elementary and secondary levels take a course titled “Supervised Internship and Seminar: Classroom Management, Motivation, and Communication.” A program at Northwestern University includes a course titled “Social Dimensions of Teaching and Learning”. The description notes that the course includes “classroom climate, cooperative and competitive goals structures, and the processes of attribution and achievement motivation.” The Early Childhood to Sixth Grade program at the University of Texas, Austin, requires a course titled “Cognition, Human Learning, and Motivation.” The Educational Psychology program at the University of Washington, Seattle, includes courses titled “Learning and Motivation in Contexts” and “Achievement Motivation in Education”; however, this is not a certification program for pre-service teachers. While the University of Pennsylvania lists psychology as one of its strengths, none of the courses listed on the website listed motivation in the course title.

Overall, out of twenty-seven websites searched, only four schools of education had clear and direct evidence that motivation is a topic of study for undergraduate pre-service teachers in licensure programs. Moreover, when motivation is a topic of study, it is usually part of a course and this course normally focuses on another topic as well, mainly classroom management. The specific pairing of motivation with classroom

management aligns with standards in the Interstate Teacher Assessment and Support Consortium (InTASC).

It cannot be taken for granted that teachers' knowledge, beliefs, and personal theories about motivation can be linked to their formal coursework in teacher education. Of course it is possible that motivation is a sub-topic of study in any number of teacher preparation courses. This review of websites is not a perfect measure of motivation in teacher education programs, but it does show that there is no uniform and main emphasis on motivation in the same way that there is a uniform emphasis on reading or science methods, for example. From the research and from this survey of the websites of representative schools of education, there is little specific knowledge of what teachers think about motivation. Teachers do have theories of motivation, but it is unclear what those theories are.

Teacher Thinking: Key Ideas

My review of the motivation research revealed that students, rather than teachers, tend to be the focus of motivation research. When researchers have included teachers in motivation research, they have done so in one of three main ways: to evaluate particular students; to compare student and teacher perception of the same phenomena, or to respond to researchers' own narrow *a priori* constructs. No studies were located that investigated teachers' ideas in and of themselves. This lack of focus raises the question of how teachers do view motivation. Remembering Stipek's (2002) idea that teachers do have theories of motivation, I remained interested in understanding how teachers think about motivation. One area of concern is *how* to ask teachers about student motivation.

Because teachers are concerned, implicitly or explicitly, with keeping students engaged in learning, it follows that they do consider motivation as part of their thinking.

To this end, it would be useful to study their lay, or naïve, theories of motivation. The word “naïve” here means “pre-scientific” rather than “ignorant” or “simple”. Some research in lay theories is related to naïve scientific theories that people may have, or to the ways in which children develop by making and testing naïve theories. Lay theories shape the ways in which people conceive of the world (Strevens, 2000) and are often self-taught. Teachers’ lay, or naïve, theories about motivation should be explored in and of themselves, and also because these theories can affect how people acquire and understand knowledge. Sloutsky and Spino (2004) studied children’s naïve theories related to biology and observed how children acquired knowledge that was or was not consistent with what they knew already. They found that when the children have organized knowledge (under which they included beliefs, theories, and schemata), that knowledge may affect how new knowledge is acquired; it was easier for children to acquire “knowledge-consistent” information than “knowledge-inconsistent” information because the new information aligned with what they knew already. Similarly, teachers’ lay theories may or may not be “knowledge-consistent” with the research on motivation. Teachers’ theories may or may not reflect ideas parallel to the research literature without using the same nomenclature. Alternately, definitions and conceptions in the research literature may be at odds with ways that classroom teachers would define and understand motivation. The subjunctive “would” is used because it is not clear from the literature that researchers understand what, how, or why teachers think about student motivation.

Investigating teachers' lay theories about motivation may reveal, for example, what teachers think motivation is, what aspects of their definitions of motivation they bring into their teaching, what they think obstructs motivation in the classroom, and what they would consider to be evidence of motivation.

Anais Nin wrote, "We don't see things as they are; we seem them as we are." This quotation provides one general way to understand teacher thinking: it acts as a lens (or filter, or frame, or guide) through which teachers interpret what goes on. This quotation also reminds us of the absence of motivation research that involves teachers.

To understand how to approach the study of teacher thinking, I learned about lay theories and teacher beliefs; both areas have common assumptions. Research on teacher beliefs offers important insights for the conceptualization and design of this study of teacher thinking about student motivation. Several researchers (e.g., Fives and Buehl, 2012; Kagan, 1992; Richardson, 1996) have distinguished beliefs and knowledge as follows: beliefs are subjective claims that an individual accepts, while knowledge is characterized as having a truth component. Three main ideas are that teacher beliefs act as a filter; teacher beliefs are organized and may be resistant to change; and teacher beliefs interact with teacher actions.

First, teacher beliefs act as a filter through which a teacher processes and synthesizes new information (Pajares, 1992). While the metaphor of the filter is most common, Fives and Buehl (2012) set out three functions of teacher beliefs: (1) as a filter for interpretation; (2) as a frame for understanding problems; and (3) as guides or standards for action. Mansfield and Volet (2010) investigated pre-service teachers'

developing beliefs about motivation through the lens of lay theories and found that prior beliefs serve as a filter for new ideas and experiences. Teacher beliefs are grounded in a range of experiences and act as filters for new information.

Second, teacher beliefs tend to be organized (Fives and Buehl, 2012; Pajares, 1992; Rokeach, 1968), stable, and can be resistant to change (Kagan, 1992). As teachers gain more experience in the classroom, their beliefs grow into a coherent and “highly personalized pedagogy” (Kagan, 1992, p. 74). In developing these beliefs, teachers draw on their knowledge of students as well as a repertoire of instructional techniques and classroom management skills (Fang, 1996) as well as personal experience (Richardson, 1996). Fives and Buehl (2012) described teacher beliefs as having “plasticity” that “allows beliefs to change with experience and interactions in professional communities, but some degree of consistency is also necessary” (p. 475). From this idea of plasticity, they posited that beliefs can be considered on a continuum with deeply integrated beliefs at one end and newer or more isolated beliefs at the other. These deeply integrated beliefs can be more resistant to change, while other beliefs may be more plastic, or changing and changeable. Gill, Ashton, and Algina (2004) designed an intervention using refutational text to challenge pre-service teachers’ beliefs about teaching and learning in mathematics; they found that pre-service teachers maintained earlier, sometimes implicit, beliefs about students and mathematics unless those ideas were challenged directly. This study supports the idea that beliefs can be resistant to change but can change all the same. The idea that beliefs may be resistant to change could be related to the fact that many studies of teacher belief investigate how certain beliefs do or do not change as the result

of an intervention (Fives and Buehl, 2012). In one study, Randi (2004), working with Lyn Corno, taught pre-service teachers about self-regulated learning by analyzing literary characters who do or do not demonstrate self-regulated learning; the pre-service teachers then attempted to translate ideas about self-regulated learning into instructional applications. Randi and Corno explicitly attempted to have pre-service teachers develop specific ideas about self-regulated learning. Alderman and Beyeler (2008) instructed pre-service teachers to design motivational “toolboxes” of strategies for motivation. They asked pre-service teachers to brainstorm particular ideas about motivation from previous experience or learning. Both of these studies, along with Mansfield and Volet (2010), were designed to help pre-service teachers develop, rather than change, a system of beliefs related to self-regulated learning. Teacher beliefs tend to grow more organized through time. Teacher educators, then, can guide pre-service teachers to think explicitly about their emerging lay theories. Educational researchers can study experienced teachers to understand what their beliefs are, how they are organized, and how those beliefs impact their teaching. These studies provide great ideas for teacher educators and those who want to study how pre-service teachers’ thinking begins to develop. While the studies of pre-service teachers are important for teacher educators and educational researchers, the particular focus of this study is how practicing and experienced teachers think about motivation.

Last, teacher beliefs interact with teacher actions. Citing Bandura’s (1997) theory of triadic reciprocal determinism, Fives and Buehl (2012) wrote that beliefs are in constant interactions with teachers’ contexts and experiences. Richardson (1996)

similarly observed that, in most conceptions, the relationship between actions and beliefs is interactive. Further, teacher beliefs are generally associated with a style of teaching that is congruent with those beliefs (Kagan, 1992). Fang (1996) reported that there is research about the consistency *and* lack of consistency between teacher beliefs and teacher actions.

From this line of research, I highlight three ideas: (1) teacher beliefs act as filters, frames, and guides for new information and experiences; (2) teacher beliefs are organized in a system in which some aspects of belief are more plastic and other aspects are less plastic; (3) teacher beliefs interact with teacher actions in specific contexts.

These studies also inform ways to explore teachers' lay theories and suggest three reasons to explore teachers' lay theories. It is important to explore teachers' lay theories of motivation in order to understand how teachers think, what themes or commonalities there may be from teacher to teacher, and how those lay theories do or do not align with motivation research. Kagan (1992) wrote that "Teacher belief is broadly defined as tacit, often unconsciously held assumptions about students, classrooms, and the academic material to be taught." (p. 65). As such, according to Kagan, teachers may not be aware of their own beliefs; this is why she cautioned against asking broad questions such as "What is your philosophy of teaching?" because those questions would be ineffective and unproductive ways to elicit teacher beliefs (1992); rather, researchers should pose more contextualized questions and also combine various sources of data. Teachers also may give desired answers rather than honest or reflective responses (Fives and Buehl, 2012). Fang (1996) also noted that "most of these studies used researcher-determined statements

or categories, which may be different from those of the participants involved in the studies.” (p. 55). These researchers raise important points about the ways in which teacher beliefs can be surfaced and studied. The research on teacher beliefs shows me the importance of having multiple sources of data for studying teacher thinking about student motivation. Additionally, it is important to employ methods that allow teachers’ lay theories to be revealed in multiple ways. Because beliefs may be implicit (Kagan, 1992; Stipek, 2002), a study of teacher thinking should select methods accordingly. Various methods include semi-structured interview and a variety of observation techniques. I approach the study of teacher thinking with the ideas that there is consistency, or congruency, between teacher thinking and teacher action and that teacher thinking emerges through semi-structured questions and prompts, prolonged observation (Lincoln and Guba, 1985), and a range of data sources. I approach the overall task of understanding teacher thinking with the idea that teacher thinking is revealed over time through talk (observation; interview), action (observation), and talk about action (interview), and that teacher belief, especially among experienced teachers, is consistent with teacher action.

Teachers’ lay theories may be implicit or explicit, so a framework that would elicit those theories is needed. Such a framework would need to be broad enough to capture a range of views but also narrow enough to lead to common findings. In exploring teachers’ lay theories of motivation, there needs to be a balance between two extremes. On the one end are the types of studies that do exist which largely ask teachers to evaluate particular students (e.g., Hughes, Luo, Kwok, and Loyd, 2008; Onatsu-

Arvilommi and Nurmi, 2000; Valiente, Lemery-Chalfant, Swanson, and Reiser, 2008), or evaluate the same phenomena as students, or ask teachers to respond to the researchers' own theories and constructs (e.g., d'Ailly, 2003; Ryan, Patrick, and Shim, 2005; Torff, 2005; Turner et al., 2002). On the other end would be a study so general as to be meaningless and powerless in its findings and implications. While it is important to study teachers' lay theories in a way that allows teachers to state their own views (rather than to respond to a researcher's pre-established theories and constructs, or to an intervention), it is also important to understand teachers' lay theories without influencing the teachers too much toward a particular perspective, as has been done with other studies.

Teachers have lay theories of motivation. Pajares (1992), in a landmark review of research on teacher beliefs, cautions that "as a global construct, belief does not lend itself easily to empirical investigation" (p. 308). As a result, he found at the time that the investigation of teachers' beliefs remained a road "lightly traveled" due to the problems inherent in trying to study beliefs; nevertheless, he advocated study of teacher beliefs with constructs and methods carefully chosen so that any findings can be related to teacher knowledge and practices (1992). This idea of carefully chosen constructs and methods relates to my application of Brophy's (2010) framework of expectancy, value, and belonging. The research on lay theories and on teacher beliefs, as well as the central role of motivation in any classroom situation, suggest the value and utility of a study of teacher thinking about student motivation.

Further, educational research has shifted from studying teacher behavior to investigating the thinking and beliefs that underlie teacher behavior (Verloop, Van Driel,

and Meijer, 2001). Like Pajares, they understand teacher actions and behaviors as emanating from teacher thinking and beliefs. Fairbanks and colleagues, in their exploration of why some teachers were more thoughtfully adaptive than others, identified four perspectives for teachers that reach “beyond knowledge” (Fairbanks, Duffy, Faircloth, He, Levin, Rohr, and Stein, 2010). Of those four perspectives, two that are most germane to this study are the idea of personal practical theories (or PPTs; Levin and He, 2008) and the idea of teacher vision (Duffy, 1998). Research on the PPTs of pre-service teachers and experienced teachers reveals that there are many sources of PPTs, among them personal experience and teacher education programs. These PPTs inform and are developed through teachers’ understanding and reflection on various ideas and experiences. A teacher’s vision, in comparison, is her or his “personal understanding about a commitment to extended outcomes” (Fairbanks et al., 2010, p. 165). Duffy (1998) writes of teachers who just seem to have it all “lined up” through the strength of their visions. Teacher vision relates to Kagan’s (1992) idea of a “highly personalized pedagogy” and the idea that stronger, more experienced teachers with clearer visions exhibit more consistency between thought and action.

The value in studying teachers’ lay theories of motivation is multi-faceted: it would be valuable to understand how teachers define, teach for, determine evidence of, and work against obstacles to motivation; it also would be valuable to understand how teachers conceptualize the three domains of expectancy, value, and belonging, and how those domains interact; it also would be valuable to understand how these lay theories and beliefs are both revealed by and informed by teacher actions in the classroom. While

Kagan (1992) reported that there is, overall, congruency between teacher beliefs and teacher actions, Fang (1996) noted that there is often inconsistency between teacher beliefs and teacher actions. Fives and Buehl (2012) acknowledged research from both sides and argued for an understanding of teacher beliefs as a system in which there is a degree of plasticity with regard to change or modification. An investigation of teacher thinking about motivation may reveal how teachers think about motivation and also how aspects of their thinking are revealed through interview and observation. A study of teacher thinking about motivation may reveal patterns across a group of middle school teachers or a wide range of ideas; it may reveal consensus with the literature; it may reveal that teachers tend to favor a particular domain of motivation, or that teachers think about motivation in terms of multiple domains.

In summary, there is a massive body of research on motivation. Over time, this research has shifted toward mini-theories of motivation as researchers explore distinct constructs within the general domains of expectancy, value, and belonging. A review of motivation research revealed that there have been no studies located that seek to explore teachers' lay theories about motivation. Additionally, a review of programs at select schools of education did not reveal any clear and consistent focus on motivation as a topic of study in teacher education. Thus, it would be worthwhile to study teachers' lay theories. My exploratory study of teachers' lay theories of motivation has considered broad questions related to motivation. To understand what teachers' lay theories of motivation are, I designed a study with multiple sources of data: a questionnaire given to a larger number of teachers, and a multiple case study of four teachers. The purpose of

the questionnaire is to use open-ended questions to understand how teachers think about key issues related to motivation. The purpose of the case study is to have prolonged engagement with a group of highly-skilled teachers in order to understand how these teachers think about motivation. The multiple case study includes multiple sources of data, focusing on observation as well as interview in order to understand teacher thinking as it relates to and is revealed by their actions in the classroom.

Through this literature review, I have explained three broad domains in motivation research (Brophy, 2010). I also presented trends in motivation research according to domain(s) of motivation, participants, and methods. My vertical search through two journals added depth to the literature review and revealed that there was no study of teacher thinking about student motivation that focused on teachers' own thoughts and beliefs without an intervention. My horizontal search through a range of research databases added breadth to the search, but yielded the same finding: no study of teacher thinking about student motivation that focused on teachers' own thoughts and ideas. A review of the websites of representative schools and colleges of education likewise revealed no clear or consistent evidence that motivation is a topic of study for pre-service teachers. My consideration of the research on lay theories and teacher thinking informs the methodology of the study and confirms the importance of doing this study.

The Pilot Study: Findings and Lessons Learned

To begin to investigate teacher thinking about student motivation, I conducted a pilot study. Participants in this study were forty-eight undergraduate pre-service teachers

enrolled in two sections of Educational Psychology (one in Summer 2010 and the other in Fall 2010). All participants were enrolled in programs that would prepare them for licensure in content areas including music, art, science, language arts, and special education. At the time of the questionnaire, most participants had completed or were completing the first of three required internships as part of their teaching programs. As part of their curriculum in Educational Psychology, they had been assigned a chapter on motivation and affect in their required textbook (Ormrod, 2007, or Ormrod, 2010) and had spent one class session (three hours in the Fall semester and two-and-one-half hours in the Summer term) discussing motivation.

The items were designed to elicit participants' thoughts about different motivational constructs and written so that participants positioned themselves as teachers-to-be. In other words, they were asked to respond to questions from the point of view of teachers-to-be rather than as students. This is worth noting because many studies of pre-service teachers (e.g., Martin, Marsh, Williamson, and Debus, 2003; Reeve and Jang, 2006; Vansteenkiste, Simons, Lens, Soenens, Matos, and Lacante, 2004) position them as students rather than as teachers-to-be. Open-ended presupposition questions (Patton, 1990) were used to encourage participants to give full responses rather than to indicate a binary answer such as "yes" or "no" or to rank items on a scale. Terminology related to motivation was avoided in order to present the questions in a conversational tone; additionally, terminology was avoided in further effort to get the participants' own views, rather than reactions to constructs in research. The purpose of writing open-ended items was to access the perspectives of the participants rather than to give them ideas to

evaluate (cf. Patton, 1990). The items on the questionnaire for this pilot study are in Appendix A.

A few findings are noteworthy. First, few patterns emerged from the data analysis. I had been interested in seeing what motivational “profiles” might emerge from the data. For forty-eight participants, however, there were forty-two unique patterns of response across the five items. There was little consistency across the participants’ responses. In addition, there was wide variability within most participants’ responses to different items on the questionnaire. This lack of consistency—both across the participants’ collective responses and within most participants’ individual responses—could be due to the fact that participants were pre-service teachers. Their thinking about teaching was still emerging and developing. As the teacher belief research showed, teachers’ beliefs tend to organize into congruent systems through time and experience (Fives and Buehl, 2012; Kagan, 1992). These participants had some classroom experience, but that experience was neither extensive nor sustained. As beginning professionals, they may not yet have developed an “artful competence” (Schön, 1983) to bring to bear on their classroom practice. Also noteworthy, participants’ responses did not reflect their class readings in terms of terminology or constructs studied. This finding on its own merits further study, because there could be several reasons why this group of pre-service teachers did not mention course readings or lectures. In addition, few participants referenced their experiences as teachers, but some did reference their experiences as students. I interpret this finding to mean that these pre-service teachers do not yet identify themselves fully as teachers.

This lack of consistency within each participant's responses and across the participants' responses poses questions for future research. First, perhaps experienced teachers' responses would reveal more consistency, or congruency (Kagan, 1992) as a result of the teachers' experience in the classroom, reflection on that experience, and continued professional development. Second, the measure did not evaluate the strength of the participants' commitment to their answers or a particular response. Also, the questionnaire was the only source of data for the pilot study; I did not follow up on these responses through interview or classroom observation.

These findings have been useful as I revised the questionnaire specifically and the methodology overall for this study. Along with revising the questionnaire in terms of the ordering of the questions and an additional component to one question, I have also thought through what it would mean for teachers to be consistent. For the pilot study with pre-service teachers, I understood consistency in terms of a participant highlighting the same domain of motivation across multiple items. Through this pilot study, I have examined my own conceptions about what it means to be consistent and what it would be like to understand and uncover a teacher's lay theory of motivation. I now see consistency as coming from harmony between thought and action, which is why the present study includes multiple sources of data: written questionnaire, interview, and classroom observation. The questionnaire phase, though, is also crucial in helping me to establish general patterns of teacher thinking about student motivation.

Conclusions

There is a vast amount of motivation research, but researchers have focused much more on students, rather than teachers, in this research. When teachers have been involved in motivation research, researchers have: (1) asked teachers to evaluate particular students; (2) compared student and teacher perceptions of the same phenomena; or (3) asked teachers to respond to their own narrow *a priori* constructs. Teacher thinking about motivation has not been a topic of study.

Teachers, though, do think about motivation (Stipek, 2002), and they do have lay theories of motivation. Research on teacher belief has emphasized that: (1) teacher beliefs act as a filter for how teachers evaluate existing or new information; (2) teacher beliefs tend to become more organized through time; and (3) teacher beliefs interact with and tend to be consistent with teacher actions. Teacher thinking, additionally, can be difficult to study (Pajares, 1992). Reviews of research on teacher belief stress the importance of methods of studying teacher belief. From this literature, I highlight the necessity of multiple sources of carefully selected data. Importantly, this study is not an intervention study; my goal is to explore and understand teacher thinking about student motivation. Many studies of teacher thinking (e.g., Turner, Warzon, and Christensen, 2011) are intervention studies in which researchers hope to affect the ways in which teachers think. Because my goal is to understand rather than to evaluate, I hope to have diminished the likelihood that teachers will give what they think are desired responses (Fives and Buehl, 2012). Instead, I hope to have selected methods and data that access teacher thinking without being too evaluative.

Research Questions

My interest in this study stems from my own teaching experience, through which I developed my own lay theory of motivation, and from my interest in discovering how other teachers thought about student motivation. The literature review revealed very few studies of motivation that had included teachers at all, and no studies in which teachers had been able to elaborate on their ideas. My overall goal was to begin to understand teacher thinking about student motivation by gathering information from a larger sample of teachers (Phase I, questionnaire) and then spending extended time with four teachers (Phase II, multiple case study) to understand their own lay theories and thinking about motivation in more depth. Because of my research focus on teacher thinking about motivation, there was one set of research questions, which I addressed through both phases of the study. Specifically, the questionnaire phase yielded data from many teachers while the case study phase yielded richer data from fewer participants. Together, both phases allowed me to extend the findings of the pilot study. The research questions were:

1. What do teachers think about student motivation?
2. How do teachers define motivation?
3. What trends, if any, emerge from teachers' answers to the above questions?
4. How do teachers' statements about motivation relate to their teaching?

The collective purpose of the research questions was to allow me to explore teacher thinking about motivation. The final question, about the interaction (Fives and Buehl, 2012) between teachers' statements and actions, is based in the multiple case study phase of the study.

Question 1

The first question is the grand-tour research question: What do teachers think about student motivation? This question drives the study from the literature review straight through to data analysis. An exploration of teachers' big-picture thinking of motivation countered the trend in motivation research toward narrower mini-theories of motivation (Graham and Weiner, 1996). Stipek (2002) noted that teachers do think about motivation and have lay theories of motivation. The main framework for understanding teacher thinking about motivation is based on Brophy's (2010) three domains of motivation: expectancy, value, and belonging. All of the other research questions stem from and inform this main research question.

Question 2

The second question concerns the ways that teachers define motivation. There are many definitions of motivation in the literature, and the definition from Schunk, Pintrich, and Meece (2008) presents most of the key ideas: "Motivation is a process whereby goal-directed activity is instigated and sustained" (p. 4). The consensus in the literature is that motivation is a state, rather than a trait, and that it is changing and changeable and influenced by context (Paris and Turner, 1994). However, researchers have not asked

teachers to define motivation. The purpose of this question is to understand how teachers define motivation and to understand how their definitions relate to the literature.

Question 3

The purpose of the third question is to understand and explore any trends that emerge from data. In the pilot study, with pre-service teachers, there were few trends within each participant's responses or across participants' responses on the written questionnaire. I wanted to understand what trends would emerge in a study of experienced teachers. Research on teacher beliefs showed that these beliefs tend to become more organized over time (Fives and Buehl, 2012) as teachers develop their own personalized pedagogy (Kagan, 1992) or vision (Duffy, 1988).

Question 4

The purpose of the fourth question is to understand how teacher thinking about motivation relates to their teaching. Overall, I wanted to understand whether there was consistency between teacher thought and teacher action. I designed the multiple case study phase of this study to be able to see how teacher thinking about motivation was revealed in the classroom through prolonged engagement.

CHAPTER II

METHODS

The purpose of this study was to understand teacher thinking about student motivation. This was a multi-method qualitative study. In the first phase, I distributed a written, five-item questionnaire about motivation to teachers in two local middle schools. In the second phase of the study, I conducted a multiple case study with four teachers, two from each school. The multiple case study was designed to explore four cases and to provide depth to the study. The combination of the two phases was intended to yield a better understanding of the research questions than either phase on its own (cf. Creswell and Plano Clark, 2007). This design was meant to produce complementary strengths and non-overlapping weaknesses from the two phases (Johnson and Turner, 2003). This multi-method approach aligns with my constructivist worldview, that there are multiple realities that surface and are surfaced through inductive research in the field, close to sites and participants involved. The choices in research questions, design, and intended outcomes align with my pragmatic worldview (Creswell, 2003; Creswell and Plano Clark, 2007) and my goal to link theory with practice. Both phases of the study included the same participants in the same settings. Specific design considerations are discussed under each phase.

Setting and Participants

Participants in both phases of the study were teachers in two local middle schools. Both of these middle schools are public schools in the same school district. The district is a consolidated county school district in a Southeast state with a larger city, a smaller city, and their surrounding communities. Both schools are in the larger of the two cities in the district. I selected these sites using purposeful convenience sampling (Creswell and Plano Clark, 2007; Yin, 2009). During the 2011-2012 school year, I supervised middle grades interns at each school. Through that experience, I was familiar with each school prior to the study, and I had gotten to know many teachers at each school. I decided to focus on middle school teachers because I have the most interest and experience in this level of schooling. The middle school years are particularly important for young adolescents' development in general and because motivation may change (Eccles, Lord, and Midgley, 1991; Ryan and Patrick, 2001), and the three domains of motivation (expectancy, value, belonging) overlap to some degree with components of the middle school model (e.g., AMLE's *This We Believe*, 2010).

One school ("Julius Middle School") has an overall student population of 874 students for the 2012-2013 school year as of January 2013: 49.4% of students are African American, 36.4% of students are white, 7.8% of students are Hispanic, and the remainder of the student population is Asian (1.7%), Native American (0.2%), or multi-racial (4.5%). I gathered this information from the monthly school attendance report (Uniform Education Reporting System) given to me by the school data manager; this information is parallel to information available to public online.

The other school (“Augustus Middle School”) had an enrollment of 747 students for the 2011-2012 school year: 49.4% of students are African American, 22.2% of students are white, 16.7% of students are Hispanic, and the remainder of the student population is Asian (4.4%), Native American (0.7%), or multi-racial (6.5%). I accessed this information through an online database of public schools throughout the state; information for the current school year was not available through the school. Augustus Middle is a Title I school for the 2012-2013 school year, and it is also an opt-out school, meaning that students from a few other middle schools can transfer to Augustus Middle because of the history of higher test scores at Augustus.

The two schools are alike in that they are both public middle schools, serving grades 6-8, in the same city and in the same school district. Students at both schools wear SMOD, or Standard Mode of Dress; this means that the clothing students are allowed to wear to school is strictly limited so as to “alleviate peer pressure” and diminish social pressures and behavioral problems, according to a description of SMOD on the district’s website. Both schools draw from working class and middle class neighborhoods. Teachers at Augustus Middle praise its positive school culture and attribute much of that to the climate established by a widely respected and beloved principal, who left the school (for family reasons) toward the end of this study. The school climate at Julius Middle has been more challenging for its teachers in recent years, yet most teachers and other staff members remain dedicated to the school, their students, and its leadership.

At Julius Middle and Augustus Middle, I invited all teachers of all content areas to complete the questionnaire; I did not invite administrators or other non-teaching

members of the staff (e.g., curriculum facilitators, librarians, guidance counselors) to complete the questionnaire because my focus was on classroom teachers. I invited four teachers, two at each school, to participate in a case study. I elaborate more on selection criteria for case study participants further below.

Timeline

The questionnaire phase of the study began as soon as the project was approved and received IRB approval, and as soon as I made arrangements with each principal to introduce the study and invite teachers to participate. The timeline for the multiple case study phase is in Table 1.

Table 1

Timeline for the Multiple Case Study

Weeks 1 and 2	Initial semi-structured interview
Weeks 3 and 4	First formal observation and post-observation interview
Weeks 5 and 6	Second formal observation and post-observation interview
Weeks 7 through 9	Final semi-structured interview

The timeline was modified to meet each teacher's schedule. Each of the case study teachers had after-school responsibilities such as meetings, tutoring, or sponsored clubs. Each case developed in the order given above, with a less-strict timeline.

Phase I: Questionnaire

The questionnaire phase came first and acted to replicate my pilot study with experienced teachers. This phase allowed me to collect data from a larger group of teachers and to provide breadth to the study. The goals of the questionnaire phase of the

study were to understand teacher thinking on a larger scale and to see what (if any) trends emerged from teachers' responses to the items about motivation.

Through the questionnaire phase, I hoped to understand teachers' broad understandings about motivation: what it is, how they teach to support it, what they consider to be evidence of motivation, what they consider to be obstacles to motivation, and how they understand and rank the three domains of expectancy, value, and belonging.

Measure

The instrument was a five-item, open-ended written questionnaire. The questionnaire was modified from the version developed for my pilot study. The items on the questionnaire were:

1. What do you think motivation is?
2. How do you plan to bring aspects of your definition of motivation into your teaching?
3. What would you consider to be evidence of motivation in the classroom? What does motivation look like, sound like, or feel like?
4. What are obstacles to motivation in the classroom?
5. The three questions below come from important concepts in motivation research. Rank these questions, and then explain your ranking. In other words, which question is most important for your students to ask about what you teach and why? Then please explain your thoughts on the other two questions. Finally, if you had 10 points to allot to the three questions in terms of importance (more points meaning more important), how would you allot the points?
 - a. Can I do this?
 - b. Do I want to?
 - c. Do I belong?

The questionnaire had open-ended presupposition questions (Patton, 1990) to encourage teachers to give full responses rather than to indicate a binary answer such as

“yes” or “no” or to rank items on a scale. Terminology related to motivation was avoided on purpose in order to present the questions in a conversational tone; additionally, terminology was avoided in further effort to get the teachers’ own views, rather than reactions to constructs in research (Martin, Marsh, Williamson, and Debus, 2003; Patton, 1990).

I based items for the questionnaire in the literature review. A goal in asking teachers to define motivation was to understand teachers’ responses in and of themselves and also to see how and whether teachers’ definitions aligned with various researchers’ definitions of motivation. Two current ideas in the literature are that motivation is a state rather than a trait, and that motivation is context-specific (Graham and Weiner, 1996; Ormrod, 2010; Schunk, Pintrich, and Meece, 2008). It was important to see whether teachers’ responses corroborated the consensus in the literature. The second item asked teachers to operationalize their definitions of motivation. This item was designed to elicit responses related to actions, statements, instructional strategies, assessment, or curriculum that participants may have established and used in the classroom with the goal of fostering student motivation. The next item asked teachers to explain what they considered to be evidence of student motivation. The wording of this item shifted the emphasis from teacher actions and planning (as in the second item) to student statements, actions, behaviors, and dispositions. The item asked teachers to explain how they determine whether students were motivated. The wording of the item was influenced by the Developmental Designs for Middle School model (Crawford, Hagedorn, and Tyink, 2010). The fourth item asked teachers to describe obstacles to motivation. This item was

included in hopes of eliciting teacher responses about actions, interactions, behaviors, tasks, events, dispositions, or other factors teachers would relate to a decrease in student motivation. The last item asked teachers to consider various domains of motivation and explain which they considered to be a priority for their students.

The main change in the questionnaire from the pilot study was a shift in the order of the items. On the pilot questionnaire, the first item asked participants (pre-service teachers) to prioritize three domains of motivation (i.e., expectancy, value, and belonging). For this questionnaire for teachers, I moved that item to the end of the questionnaire. Through analysis of the results from the pilot study, I understood that I may have been influencing pre-service teachers' responses to the other items too much by introducing the tri-partite domains of expectancy, value, and belonging through the first question. Analysis of results from the pilot study did not reveal overt signs of bias. Nor did I detect that these pre-service teachers had adopted the language of the questions in their responses. Nevertheless, I erred on the side of caution by introducing the idea of domains at the end of the questionnaire revised for this study. I also added a sub-question asking each teacher to allot ten points across the three domains according to the importance they gave each one. The reason that I added this part to the final item was to get a sense not only of each teacher's ranking, but also of the strength of the rankings relative to one another. Overall, the content of the questionnaire is parallel to its content in the pilot study, which allowed me to make comparisons between teachers' responses and pre-service teachers' responses.

There were several rationales for the questionnaire phase of the study. First, the items on the questionnaire were based on my research questions; teachers' responses to items on the questionnaire allowed me to respond to my research questions. Second, this questionnaire phase replicated the pilot study and implemented lessons learned from the pilot study. Overall, the new version asked the same questions as the questionnaire used in the pilot study. This similarity of content has allowed me to compare teachers' responses with those of pre-service teachers. In my pilot study, I found little consistency within or across the responses of pre-service teachers, so I wanted to see whether there are more, fewer, or a parallel number of patterns among teachers as among pre-service teachers. The rationale for doing the questionnaire first was that the responses gave me a broad view of teacher thinking about student motivation.

Procedure

After making arrangements with each principal, I spoke at a faculty meeting at each school to introduce the topic of research and to invite all teachers to participate. Teachers gave their names on the forms, and I also recorded the grade(s) and content area(s) each taught on my participant master list, which is password-protected. I did not collect demographic information, because the purpose of this study is to explore thinking among teachers, and not to compare responses by teacher gender, teacher ethnicity, or other such divisions. Teachers who participated had confidentiality but not anonymity. The reason for this was that I discussed the questionnaire with the teachers who became participants in the multiple case study phase of the study. I have guarded teachers' confidentiality by keeping original questionnaires in a secure location and by assigning

each teacher an identification number which I used for transcription and analysis. I transcribed teachers' written responses.

At first, I collected only a few questionnaires at each school. I distributed the questionnaire a second time at each school and asked each secretary to send an email reminder. After the follow-up distribution, I collected several more questionnaires.

Coding and Analysis

To analyze the data from the questionnaire phase, I used constant comparative analysis (Creswell and Plano Clark, 2007; Glaser and Strauss, 1967; cf. Faircloth, 2012; Miller and Meece, 1999; Oldfather and Thomas, 1998). I used two coding structures to code the data. Both coding structures emerged from data analysis in the pilot study, and I have applied them to the questionnaire for this study. The first structure is based on Brophy's (2010) idea of the three domains of motivation: expectancy, value, and belonging. The second structure is based on Marshall's (1988) classroom metaphors of work and learning. Additional codes emerged from the data through analysis; these codes largely related to teachers' ideas about obstacles to motivation.

Within the larger domains of expectancy, value, and belonging, I sought to develop sub-codes to understand the data further and to watch more closely for any trends in teachers' responses. Descriptions of the codes and key words used to code responses are as follows. The coding structure based on Brophy (2010) was used in items 1, 2, 4, and 5; the coding structure based on Marshall (1988) was used for item 3. For item 5, on which teachers ranked the domains of motivation according to key questions, I followed

the teachers' wording and logic rather than my key words because each teacher ranked the domains according to her/his own understanding.

Expectancy. Expectancy is “an individual’s belief concerning the likelihood that a particular reinforcement will occur following a specific behavior” (Schunk, Pintrich, and Meece, 2008, p. 376). General words associated with expectancy are success and achievement. To differentiate among aspects of expectancy specifically, I drew on the explanations in Schunk et al. (2008) and Ormrod (2010). I developed three sub-codes for expectancy: affective, cognitive, and drive. Definitions and key words used in coding were:

- *Affective.* Affect is defined as “a general term that refers to both diffuse moods and specific emotions” (Schunk et al., 2008, p. 375); affect is also defined as “feelings, emotions, or moods that a learner brings to bear on a task” (Ormrod, 2010, p. G-1). Key code words included: desire, willingness, inspiration, preference, encourage, excite.
- *Cognitive.* The word “cognitive” is closely associated with mental structures and thinking. Cognitive theory is defined as a theory that “views motivation as arising from mental structures or the processing of information and beliefs” (Schunk et al. 2008, p. 375). A cognitive process is a “particular way of thinking about and mentally responding to a certain event or piece of information” (Ormrod, 2010, p. G-2). Key code words included: belief, think, thought, goal, and learning.
- *Drive.* Drive is defined as an “internal force that seeks to maintain homeostasis” (Schunk et al. 2008, p. 376). Related to drive is an idea of control, which overlaps

with choice. Students' self-efficacy may increase when they perceive that they have control or choice in learning and activities. When students do not perceive that they have control, they may develop learned helplessness (Peterson, Maier, and Seligman, 1993). Key code words included: drive, force, and will.

Value. An understanding of value is an understanding of the subjective reasons or beliefs a person may have about a task or idea (cf. Schunk, Pintrich, and Meece, 2008). Key code words for value included: value, reason, relevance, connection, engagement, passion, importance.

Belonging. Two aspects of belonging are "frequent personal contacts or interactions" and the perception of an interpersonal bond or relationship "marked by stability, affective concern, and continuation into the foreseeable future" (Baumeister and Leary, 1995, p. 500); in other words, the need "to be part of the story" (Moje, 2000). Key code words for belonging included: belong, part, relationship, care, rapport.

Responses to the third item were coded using a framework from Marshall (1988), which described classrooms as having work orientations or learning orientations. Because the third item asked teachers to determine evidence of motivation based on observable student *behaviors* or *statements* (rather than student emotions or cognitions), the labels "work" and "learning" reflected the data better than the expectancy, value, and belonging scheme used in other items. Another distinction of the third item is that the other questions positioned the teachers as examining *their own* thoughts and practices. The third item, by contrast, positioned teachers as examining *student* behaviors. Thus a work and learning coding scheme was applied to the data for this question.

Work. According to Marshall (1988), a work orientation is associated with self-efficacy, success, meeting goals, doing the curriculum, and being on-task. The value component, or “why”, of a work orientation is related to being a good worker and fulfilling the value component of work. Key code words for “work” included: work, task, attention, complete.

Learning. A learning orientation is associated with self-regulated learning, enjoyment, creativity, and personal involvement. The expectancy related to a learning orientation is the expectancy of being involved in order to explore and expand one’s understanding. The value component, or “why”, of a learning orientation is related to relevance and enjoyment. Key code words for “learning” included: learn, enjoy, engage, involve, collaborate, interest, encourage.

To ensure reliability, a second researcher also read the data. Initially, there was a high degree of agreement between us on the coding of individual responses. Differences were reconciled through discussion.

In analyzing the data, my goal was to respond to the research questions; that is, I wanted to understand how this sample of teachers from these two middle schools defined motivation, explained how they brought aspects of that definition into their teaching, understood obstacles to motivation, observed evidence of motivation in students, and how they evaluated the domains of motivation, as represented by key questions. I looked for trends and patterns across the teachers’ responses as well as within each teacher’s questionnaire. In other words, if a teacher prioritized value aspects of motivation, represented by the key question, “Do I want to?”, did this same teacher refer to value

aspects of motivation (e.g., engagement, enjoyment, relevance, meaning) in other parts of the questionnaire? Similarly, if a teacher understood motivation in terms of belonging, represented by the key question “Do I belong?”, did other parts of the questionnaire reflect the teacher’s attention to related ideas such as classroom environment, students’ agency and identities, and relationships in school? Also, I wanted to see what patterns in teacher thinking about the three domains and their interactions were. Unlike Turner and colleagues (2011), who looked for “patterns of change”, I again was interested in any patterns of *consistency* within each questionnaire and across the questionnaires.

Phase II: Multiple Case Study

The second phase of the study was a multiple case study (Yin, 2009). The data from the questionnaire phase provided breadth to the study, because I had many teachers participating. That phase allowed me to see how teachers think about motivation as revealed on a one-time written measure. The second phase of the study was designed for me to follow up on this data through a long-term case study with four teachers. Through the case study, I observed each teacher multiple times and interviewed each teacher on different occasions. The case study phase provided depth to the study. The design principles are built on the ideas of prolonged engagement, triangulation of data through multiple sources of data, iterative data collection and analysis, and member checking of data to ensure credibility (Lincoln and Guba, 1985). An image from outside of educational research resonates with me. In *The Omnivore’s Dilemma*, author Michael Pollan (2006) described a day he spent with experienced mushroom hunters. It took time and proximity to the hunters’ expertise for him to “get his eyes on” and see fertile

mushroom patches right in his own neighborhood. In a similar manner, prolonged engagement with each teacher in the case study allowed me to “get my eyes on” and gain a better sense of how each teacher thought about motivation. Two specific studies from which I drew design ideas are Fives and Buehl’s (2008) two-phase study of teacher beliefs and Turner, Warzon, and Christensen’s (2011) study of a few teachers engaged in a nine-month study of motivation that focused on the teachers’ patterns of change. My focus, by contrast, is on patterns of consistency within each case and across the cases.

Case study includes extensive description and analysis of single units; careful selection and bounding of the case are critical with case study methodology (Merriam, 1998; Stake, 1995; Yin, 2009). Case study is becoming increasingly popular and useful in motivation research (e.g., Butler, 1998; Perry, 1998; Zeldin and Pajares, 2000). I defined each teacher as the case because of my design emphasis on teacher thinking. In bounding the case as the teacher, I also took a constructivist approach (Wells, Hirshberg, Lipton, and Oakes, 1995). The context for the multiple case study is the classroom of each teacher.

I spent more than nine weeks on the second, multiple case study phase of the study. Over this time period, I combined interview and observation in order to understand each case more thoroughly in terms of the research questions. There are a few reasons I combined interview and observation. First, motivation by definition is inferred from what people say and do (Schunk, Pintrich, and Meece, 2008), so I needed to speak with teachers to understand how and why they did certain actions or made certain statements in the classroom. Second, I found in my review of the literature few studies in which

teachers had prolonged participation that allowed the researchers to understand and probe their statements and responses about the motivational constructs under investigation. An exception is Turner, Warzon, and Christensen (2011), who interviewed and observed teachers over the course of a school year in order for them to understand each teacher's thinking and teaching. Third, through interview and observation, I was able to follow up on the ways that each teacher responded to the questionnaire in Phase I: interview allowed each teacher to elaborate on her/his responses to the questionnaire, while observation allowed me to note alignment between each teacher's responses and her/his classroom practice. Pairing interview and observation also allowed me to understand teacher thinking through both words and actions (cf. Koballa, Kittleson, Bradbury, and Dias, 2010). I follow Schön's (1983) idea that teachers display an "artful competence" through their actions in the classroom; this is a fourth reason why I paired interview with observation as I observed what teachers do and how they explain and reflect on their classroom practice. Fifth, a professional's statements are not always aligned with that person's actions (Laksov, Nikkola, and Lonka, 2008); pairing interview and observation allowed me to explore perceived discrepancies between a teacher's thoughts and actions. Last, a combination of interview and observation allowed teachers to show *what* they do in the classroom and also to explain *why and how* they act and speak in certain ways with regards to motivation. Kagan (1992) reported that many studies of teacher belief showed that teacher beliefs and teacher actions were congruent; Fives and Buehl (2012) also stressed that teacher beliefs tend to become more organized; I interpret consistency between thinking and acting to be a reflection of that organization.

Participants

For the multiple case study (Yin, 2009), I used purposeful convenience sampling (Creswell and Plano Clark, 2007; Maxwell, 2005) to invite four teachers to participate in the case study phase. Maxwell (2005) outlined four goals for purposeful sampling: to achieve a representative sample, but also to achieve a heterogeneous sample; to illuminate the research questions; and to provide basis for comparison and contrast. In selecting four teachers to participate in the case study phase of the study, I endeavored to have teachers who teach different grades in different content areas so that I could achieve a heterogeneous yet representative sample (Maxwell, 2005) of middle school teachers in these two schools. Even though the teachers differed by grade and content, they were alike in that they seemed to have it all “lined up” (Duffy, 1998) by having perspectives on their teaching that are “beyond knowledge” (Fairbanks et al., 2010). These teachers have some outward signs of teaching expertise. They are also teachers who are highly respected by their principals, peers, pre-service teacher interns, or people within the campus community for their reflective, innovative, thoughtful, and otherwise strong teaching. It is my hypothesis that teachers who have it lined up in terms of their content knowledge, pedagogical knowledge, and pedagogical content knowledge (Shulman, 1986) also will have coherent lay theories about student motivation. Last, it was important that I have a solid rapport with the teachers to foster open and honest communication.

Based on my previous knowledge of teachers at Julius Middle and Augustus Middle and teachers’ responses to the questionnaire, I identified teachers that I wanted to

invite to participate in the multiple case study. I selected strong teachers of a range of grades and subjects. In all of my field notes and files, I called the teachers A, B, C, and D for the order in which they joined the study. I then assigned a pseudonym to each teacher as part of my case study analysis.

Teacher A. Teacher A teaches eighth-grade Language Arts and Social Studies at Augustus Middle School. She believes in developing strong relationships and connections with her students and is seen by many as a caring teacher and maternal figure. In her teaching, Teacher A draws on common points of reference as well as the students' interests and backgrounds in order to engage them in a wide variety of curricular topics.

Teacher B. Teacher B teaches seventh-grade Language Arts and Social Studies at Augustus Middle School. The youngest of the case study teachers, she has the most alignment with students between her own interests and the students' interests. Teaching has been Teacher B's only professional career: she entered college right after high school and began teaching middle school right after college. In her teaching, Teacher B prioritizes discussion and participation. She has a calm, even demeanor in class.

Teacher C. Teacher C teaches seventh-grade Science at Julius Middle School; in previous years, she has taught Math as well. Teacher C is invested in each student's success during seventh grade and also into high school and college. She runs a high-energy and tightly-scheduled classroom with many different types of activities, forms of instruction, and applications for her students.

Teacher D. Teacher D teaches sixth-grade Science at Julius Middle School. He maintains a laid-back, easy-going demeanor during class and in his one-on-one interactions with students. His implementation of the layered curriculum is a model of differentiation.

Measures and Procedures

The multiple case study took place over nine to eleven weeks. There were several data sources for the multiple case study phase of the study: formal interview, observation, post-observation interview, informal interview and conversation, and relevant communications. Through prolonged engagement (Lincoln and Guba, 1985) and multiple sources of data, I hoped to have been able to give a thick description (Geertz, 1977; Lincoln and Guba, 1985) of each case.

Formal Interview. I scheduled an initial formal, semi-structured interview toward the beginning of each case. The protocol for this interview is Appendix B. This protocol is especially influenced by Turner et al. (2011), Middleton (1995), and Evensen, Salisbury-Glennon, and Glenn (2001). The goal of the interview was to understand how each teacher thinks, rather than to collect information from them to answer my questions and my questions alone. As such, I aimed to prioritize the teachers' own concepts (Maxwell, 2005; Patton, 1990). In keeping with my goal in the study of understanding teacher thinking, I tried to structure the interview to elicit life stories (Chase, 2003). Chase differentiates between *stories* and *reports*, advocating stories; researchers can structure interviews in order to elicit life stories by encouraging teachers to take responsibility for the meaning and path of the interview. The protocol was structured to

begin with general questions about each teacher's background; by starting with "big-picture" questions, I hoped to share ownership of the conversation with each teacher in hopes that each will take responsibility for the meaning and the direction of the interview. I also hoped to locate ownership (Cochran-Smith and Lytle, 1993) with the teachers in the study so that I could honor and represent each teacher's agency "in both the exchange of ideas and the action" of the study (Reason, 1988, p. 264). I completed each case study with a second formal interview, using a protocol based on the protocol from the initial interview; these two interviews were designed to act as bookends to frame each case. Any changes that I made in terms of the content or the sequence of the questions were based on the progress of the case study phase. I audio-recorded the formal interviews and transcribed them myself for analysis. The interviews were confidential but not anonymous. Teachers were given copies of the two formal interviews for member checking.

Observation. I observed each teacher 10-12 times during the case study. Observations were ongoing. The goal of observation was to understand what teachers say and do that relates to motivation; I collected data that relates to how teachers frame tasks (Marshall, 1988), how teachers interact with students academically and affectively (Johnston, 2012), and how teachers structure time and space. I took running records of what teachers said and did. I took field notes in the form of careful running records (Perry, 1998; Perry, Phillips, and Hutchinson, 2006; Perry, VandeKamp, Mercer, and Nordby, 2002) on these observations, but I did not audio-record them.

In general, I observed each teacher for the entire class period. I observed the same class for each teacher with a few exceptions. I planned to do this so that I could get to know the students and understand patterns of interaction among the teachers and students better. In one case, I began by observing one of Teacher B's Social Studies class, but shifted to observing one of her Language Arts classes. I observed one of Teacher A's Language Arts classes each time except for two times that, due to outside factors, I observed her other Language Arts class. I generally observed the same Science class of Teacher C but observed another class on Career Day due to a late schedule change. I observed the same Science class of Teacher D each time.

My goal was to observe each teacher twelve times over the course of several weeks. In one case, with Teacher C, I reached saturation of data after ten observations. With Teacher D, I reached saturation after eleven observations. I observed Teacher A and Teacher B twelve times apiece. While it was my goal to observe each teacher at least weekly, I modified my schedule at several points due to factors such as teacher illness, testing, alternate schedules, or other contingencies that arise in schools. Overall, I spent between nine and eleven weeks with each case study teacher.

The protocol for observation is Appendix C. This protocol was developed inductively in three main ways. First, it was informed by items on the questionnaire, which in turn is grounded in the literature. Second, I observed and interviewed two sixth-grade teachers in order to refine the observation protocol. One of the teachers is a cooperating teacher at a middle school in a nearby county, and I had heard great reports of her teaching. The other was a cooperating at Julius Middle and was also an award-

winning teacher at the district and regional levels. I took written notes during the observations and interviews. Later I reviewed these notes to develop categories for the protocol. Neither of those teachers participated in either phase of this study, one because she taught in another school in another county, and the other because she left Julius Middle to work at the district offices. Third, I revised the protocol based on Spradley (1980) and the Observing Patterns of Adaptive Learning Protocol (OPAL; Patrick et al., 1997). While Spradley (1980) can be applied to observation in general, the OPAL is based on classroom observation. When I began the observation of each case study teacher, I worked extremely hard to capture as much verbatim language as possible and to note classroom interactions in extreme detail and with frequent time markers; as such, I did descriptive, “wide-focused” observations (Spradley, 1980). Over time, as I began to understand each case study teacher and her/his students, style of teaching, and overall general patterns better, I shifted toward selective observations (Spradley, 1980); I still took copious notes but did not capture as much verbatim language.

It was important to observe teachers and also interview them so that I could understand what teachers say, what teachers do, and how what teachers say and what teacher do interact. Reviews of research on teacher beliefs (Fives and Buehl, 2012; Kagan, 1992) have noted that there need to be more studies that pair observation with interview, questionnaire, or other self-report forms of data. This study included questionnaire, interview, and observation.

Post-Observation Interview. I scheduled two post-observation interviews with each teacher; each teacher thus had two formal observations and two post-observation

interviews. Scheduling was done at each teacher's convenience. In Teacher A's case, I combined the second post-observation interview with the final, semi-structured interview due to her request based on schedule constraints. It was my goal to have the interview within a week of the observation so that each teacher and I had good recall of the lesson; I often was able to schedule the post-observation interview within a day of the class on which it was based. The goal of the post-observation interview was to talk through the lesson through the lens of motivation. Additionally, I wanted to understand teachers' explanations and responses to events that had happened during class. I did not want to trust that my interpretation matched the teachers'; as Kagan (1992) wrote, "beliefs cannot be inferred directly from teacher behavior, because teachers can follow similar practices for very different reasons" (p. 66). Before each post-observation interview, I reviewed my notes and marked several specific items to discuss with the teacher so that I understood how (s)he understood, explained, and otherwise talked about each incident. I took notes and also audio-recorded each post-observation interview, which I transcribed myself. The protocol for the post-observation interview is Appendix D.

Informal Interview and Conversation. Informal interviews took place with each teacher several times throughout the case study. I took field notes on these conversations after the fact but within a day.

Relevant Communications. I include relevant communication such as memos or email in my data sources in case ideas or thoughts communicated between teacher and me turn out to be meaningful to the case.

Researcher Role. For this study, my role as a researcher is to understand teacher thinking. For the questionnaire phase, my role was to recruit teachers to take the questionnaire and then to prepare, distribute, and collect the questionnaires. For the case study phase, I was, as the researcher, the primary instrument of data collection (Merriam, 1998). I conducted and transcribed the interviews, took written notes and transcribed them, and also observed the teachers.

Coding and Analysis

My goal to understand teacher thinking about student motivation drove the plan of analysis for this study. As such, I take an emic stance (Maxwell, 2005), meaning that I sought to explore, uncover, and understand teachers' lay theories of motivation rather than to ask teachers to respond to my ideas as a researcher about motivation. I hoped to frame the study for teachers in both phases in a way that they can understand and identify with my interest in motivation. In the case study phase especially, my goal was to elicit life stories (Chase, 2003) from the teachers so that they can give context, background, and reflection to their statements about teaching broadly and motivation specifically.

To analyze the data from the multiple case study, I began with the same two coding structures based on Brophy (2010) and Marshall (1988) that I had developed in the pilot study and was using for analysis of the questionnaire data. Additional themes and codes emerged from the data. Throughout the study, I had iterative data collection and analysis (cf. Faircloth, 2012). Iterative data collection and analysis allowed me to see and follow up on emerging themes and issues. Similarly, Reason (2003) advocated "full reciprocity" between researcher and participant as a way to honor the participant's

agency through the exchange of ideas. I tried to operationalize these ideas by structuring my interview protocol in a way that invites each teacher into the conversation. By sharing how I became involved in motivation as a topic of research, I hoped to allow each teacher to identify with my life as a teacher and my reasons as a researcher for undertaking this study. I further hoped to elicit narratives through asking thoughtful questions and entering into dialogue with teachers to support their giving full and descriptive narratives (cf. Kluwin, McAngus, and Feldman, 2001).

To ensure reliability (Lincoln and Guba, 1985), I used member-checking by asking teachers to read, comment on, correct, add to, or otherwise amend interview transcriptions for the semi-structured interviews. I also member-checked some of my field notes with participants informally or during post-observation interviews. I asked each teacher to member check a profile I had written as part of my analysis. I also had a second researcher with whom I discussed the questions and ideas that drove this study. Finally, I took researcher memos throughout the study to capture ideas, questions, and thoughts.

Design and Rationales

There are several rationales for this study. First, as the literature review revealed, there are no studies that have explored teacher thinking about motivation in and of itself. This is why the questionnaire phase came first: to establish some general understandings that teachers have about student motivation. Additionally, the first phase of the study replicated the pilot study, but with experienced teachers rather than pre-service teachers as the participants. I decided to study teachers rather than pre-service teachers for one

main reason: teachers have been in their own classrooms, whereas pre-service teachers have not. Because of that, teachers have had more experience with and control over classroom life in terms of planning, instruction, assessment, student interaction, and other aspects of teaching.

A second rationale is that I needed to follow up on the written questionnaire data with in-depth inquiry. This is why I designed a multi-method study. While the items on the questionnaire elicit teachers' thoughts about motivation in several ways, the questionnaire has two main limitations as a written measure: (1) it does not give me an idea of the strength or conviction of the teachers' responses; (2) a written response alone does not allow me to see how the teacher operationalizes her/his own statements about motivation in the classroom. Also, the questionnaire was a self-report item; while self-report allows us to understand what teachers think and feel, there is a concern (Fulmer and Frijters, 2009) that motivation research relies too heavily on self-report measures.

A third rationale for this study was to understand teacher thinking about student motivation through prolonged engagement by seeing what teachers write about motivation (questionnaire), what they say about motivation (interview), and how they teach for motivation (observation). While the questionnaire data from my pilot study has been very important, it was removed from the context of the classroom. For the case study phase of the design, I interviewed and observed teachers in their schools over a period of 9-11 weeks in order to expand on the questionnaire data by being situated in the context of classrooms (Lave and Wenger, 1991). Evensen and colleagues developed their grounded theory of a situated model of self-regulated learning among medical students

through case study (Evensen, Salisbury-Glennon, and Glenn, 2001). Flowerday and Schraw (2000), in their phenomenological investigation of teacher beliefs and instructional choices, used semi-structured interview to generate, rather than test, theory. They gave participants interview questions in advance so that the participants could think and make notes before the interview began; this is a strategy I adapted for the initial and final interviews with each case study participant.

A fourth rationale for this study is that it contributes to the knowledge base on teaching and learning, since contribution to teacher practice should be a goal of teacher research (Calderhead, 1993; Shulman, 1986). A fifth rationale is that there are several studies that, taken together, provide a road map for various components of this study; this study is grounded in the literature as it expands the knowledge base on teacher thinking about student motivation. Last, this study joins the growing trend of case study in motivation research (Butler, 1998; Perry, 1998; Turner, Warzon, and Christensen, 2011).

Strengths and Limitations

This study offers several strengths. First, it is informed by motivation research as well as research on teacher thinking and thus adds to the knowledge base on both topics. Second, it is study how teachers think about motivation that will add to the literature. Third, it counters the trend toward narrow, mini-theories of motivation that Graham and Weiner (1996) identified and which I have observed in my search of the more recent motivation research. Fourth, it places a value on teachers and their views and thus serves a pragmatic and also a social justice purpose by drawing attention to the primary agent in the classroom. It contributes to the case study trend in motivation research. Another

strength of this study is my own interest in the topic and my approach to the questions both as a teacher and as a researcher.

The main limitation of this study is researcher inexperience. The design of this study is built around the idea that I as researcher was the primary instrument of data collection (Merriam, 1998) through my designing the protocols, conducting the interviews, observing teachers, and analyzing the data. I worked against this limitation through the strategies above, namely member-checking, inter-rater reliability, and researcher memos. One may argue that another limitation of the study is its context and its inclusion of only four teachers in the multiple case study phase of the study. My response is that case study is not intended to be generalizable. It is intended to provide thorough exploration of the case(s) under consideration (Stake, 1995). The findings of this multiple case study of four teachers in two schools in a regional Southeast city may not generalize to other schools in other contexts, and they are not meant to. They are meant to shed light on the questions developed for this study. It is my long-term goal to pursue these research questions in other contexts.

Conclusions

In designing this study, I have done many thought experiments (Maxwell, 2005) in which I have imagined myself as a teacher participant in this study. Since I left the classroom only recently, it has been easy for me to think of specific ideas or examples I would give if asked the items on the questionnaire or in the interview protocol. I would be able to tell a researcher what in my classroom could have been interpreted to reflect my lay theory of motivation. Through these thought experiments, in addition to my

review of the literature, I have placed a high priority on reflecting the lay theory of the teacher inasmuch as possible.

CHAPTER III

RESULTS

In this study, I remained focused on teacher thinking about student motivation as it was revealed through questionnaire, interview, and observation. This was a sequential, multi-method qualitative study. From the first phase, I gathered written open-ended responses on questionnaires from teachers in two local middle schools. The second phase of the study was a multiple case study of four teachers, two at each school; each case study included observation, semi-structured interview, and post-observation interview. I will present the results by each phase of the study.

Phase I: Questionnaire

I collected 43 questionnaires from teachers at the two schools. The overall response rate was 40%. At Julius Middle School, nineteen out of 57 teachers (33%) returned the questionnaire; at Augustus Middle School, twenty-four out of fifty teachers (48%) returned the questionnaire. Two questionnaires were returned without signature, and I was unable to determine which teachers had completed them. Even with a lower-than-hoped-for response rate, I gathered information from teachers of all grades and a range of content areas, so I am able to consider their responses representative of their school contexts. I transcribed all questionnaires. Written responses have been edited only for spelling and use of symbols. Underlined words or words in capital letters reflect similar emphasis in the teachers' written responses to the items. I have grouped

discussion of items on the questionnaire by the nature of the items rather than their sequence. Teachers' responses varied depending on the nature of the item.

When asked to define motivation or explain how they would bring aspects of their definitions into their teaching, teachers favored an expectancy approach to motivation. Thirty-three teachers (76.7%) defined motivation in terms of expectancy; eight (18.6%) defined motivation in terms of value; and two (4.7%) defined motivation in terms of belonging. Of teachers who defined motivation in terms of expectancy, nineteen defined motivation in terms of affect; fourteen defined motivation in terms of drive. Similarly, when teachers were asked, on the second item, how they brought aspects of their definitions of motivation into their teaching, they favored expectancy (39.5%) over value (25.6%) or belonging (20.9%); six teachers (14%) wrote general responses that could not be coded in terms of a particular domain of motivation. Teachers tend to define motivation and operationalize their definitions of motivation through the lens of expectancy.

However, when teachers were asked, on the last item on the questionnaire, to rank the domains of motivation as represented by key questions, the emphasis shifted to belonging: seventeen teachers (39.5 %) ranked belonging as most important; ten (23.3 %) ranked expectancy first; and ten (23.3 %) ranked value first. One teacher (2.3%) ranked value and belong as equal and above expectancy, and five teachers (11.6 %) did not rank the domains.

Table 2 shows how teachers' responses were coded for the first, second, and fifth items on the questionnaire: how they defined motivation, how they brought aspects of

their definition of motivation into their teaching; and how they ranked three domains of motivation. For these three items, the primary codes were expectancy, value, and belonging.

Table 2

Responses for Items 1, 2, and 5 on the Questionnaire

	Definition of Motivation	Aspects of Motivation in Teaching	Ranking the Domains
Expectancy	33	17	10
Expectancy: Affective	(19)		
Expectancy: Drive	(14)		
Value	8	11	10.5
Belonging	2	9	17.5
General Motivation		6	

N.B. One teacher gave value and belonging equal importance on the fifth item.

Sample responses for expectancy that were further coded as affective or drive are:

The willingness to go the extra mile, to do more than is expected of you. It is the desire to do something. (Participant 9) (expectancy: affective)

I think motivation is an inward drive that can be excited or heightened by external incentives. It is the driving “force” that compels one to achieve and excel- doing one’s best. (Participant 20) (expectancy: drive)

It is not surprising that most teachers defined motivation in terms of expectancy, which is related to ideas of success. Student success is a key concern for many teachers, and that concern is reflected in how they defined motivation.

The second item on the questionnaire asked teachers how they would bring aspects of their definitions of motivation into their teaching, or operationalize their definitions. The responses coded expectancy emphasized encouragement, effort, and achievement. Expectancy responses were further coded as: affective (13), cognitive (3), and affective and cognitive (1); the emphasis was on encouragement and a positive classroom environment. One teacher wrote:

I plan to guide my students in a positive direction to have the desire to want to do well, push them to their full potential, challenge them, and make them feel successful along the way as they strive to reach their goals. (Participant 34)

Many teachers whose responses were coded as value highlighted their own interest in the content area and their goal to nurture that interest to students:

I love my content area- one of the things that I try to do is help students find some aspect of Social Studies that interests them. (Participant 29)

Teachers whose responses were coded as belonging emphasized trust, caring, and relationships. One teacher wrote that she would bring aspects of that definition into her classroom by “showing I genuinely care through my actions”. In general, teachers wrote that they brought aspects of their definition of motivation into their teaching through a focus on expectancy.

The fifth item on the questionnaire presented the three domains in terms of a key question for each. The question for expectancy was, “Can I do this?”; for value it was, “Do I want to?”; for belonging it was, “Do I belong?” The item asked teachers to rank the domains in terms of importance and then to allot ten points across the three domains in

accordance with the relative importance of each. The addendum with the allotment of ten points was added to gain a sense of the teachers' relative weighting among the three domains. Although I was keen to see how teachers ranked and discussed the domains of motivation, I put this item last on the questionnaire to minimize influence on the content or directions of teachers' responses on previous items.

Ten teachers (23.3 %) ranked expectancy first. Within this group, one teacher allotted all ten points to expectancy and equated expectancy with motivation in general: "I feel that student motivation is the most difficult item to accomplish." Another teacher also equated expectancy with motivation by writing, "I am sorry- I do not understand how [value] and [belonging] would be a relevant question about what I teach and why." Both teachers' definitions of motivation were coded as expectancy, so their responses were consistent and also paralleled teachers' overall tendency to define motivation in terms of expectancy. Most other teachers allotted points to all three domains.

Another ten teachers (23.3 %) ranked value first. These teachers allotted points to each domain and understood the domains to interact. A sample response shows how teachers understood a value component of motivation as the starting place on which expectancy is based: "If the student wants to do it, then they are probably going to achieve."

Seventeen teachers (39.5 %) ranked belonging first. One more teacher (2.3 %) indicated that there was a tie between value and belonging for top ranking. All of these teachers allotted points to each domain. This teacher's response shows how she considered all domains important, with belonging preceding expectancy and value:

I have to build trust with students in order to motivate them. Providing a sense of belonging within my classroom gives students a “comfort level” to take risks. They have to feel like they have a purpose. That is most important to me!
(Participant 27)

Teachers’ responses indicate that they see the three domains of motivation interacting and affecting one another. For many of the teachers who ranked belonging first, a sense of belonging established an atmosphere in which students felt like they could be successful, like they could try and fail with support and without judgment, and like their teachers knew them and cared for them as individuals. It is significant that the greatest number of teachers ranked belonging as most important. This high ranking of belonging may reflect that the teachers in this study were all middle school teachers, and affective components of education are particularly important for teachers of young adolescents (cf. AMLE, 2010; Crawford, 2008).

Equally surprising, a few teachers made comments that showed that belonging did not figure into their thinking about motivation. One teacher wrote that belonging was “not a motivation factor in my opinion.” Another wrote, “I have trouble figuring out how ‘Do I belong?’ relates to motivation.” No teacher, by contrast, questioned how expectancy related to motivation.

Overall, the questionnaire responses revealed that different teachers prioritize different domains of motivation. These results show that there are different patterns of teacher thinking about motivation. At the same time that most teachers (76.7%) defined motivation in terms of expectancy, most (39.5%) also ranked belonging as the most important domain. This could be because teachers define motivation in terms of personal

relevance but understand that motivation is supported through a classroom atmosphere marked by positive and strong relationships, trust, and caring among teacher and students.

After exploring how teachers ranked the domains, I examined how they had allotted their ten points. Five teachers did not rank the domains, and another five did not allot any points. Three other teachers' rankings did not match their allotment of points. I looked at the remaining thirty teachers who allotted the most points to their top-ranked domain. One teacher, as stated, allotted all ten points to expectancy. Four teachers allotted seven points to their top-ranked domain. Six teachers allotted six points to their top-ranked domain. Ten teachers allotted five points, and nine allotted four points to their top domain. Twenty-eight of these thirty teachers (93.3 %) allotted at least one point to each domain; one teacher allotted no points to value or belonging, and one teacher allotted no points to belonging. These patterns in the allotment of points reveal that most teachers do understand the domains to interact and be closely related. Nineteen teachers (63.3 %) allotted four or five points to their top domain. This finding, that most teachers allotted no more than five points to their top domain, shows that these teachers may identify a hierarchy within domains but still understand all to be important and to interact.

The other two items on the questionnaire asked teachers to describe what they considered to be evidence of motivation, and obstacles to motivation. For the third item, about evidence of motivation, the two primary codes were work and learning, based on Marshall's (1988) framework. This coding scheme was able to be applied to all responses

except one (2.3%); that teacher described evidence of motivation in terms of belonging. Of the other teachers, twenty-five (58.1%) described evidence of motivation in terms of a learning orientation. Their responses focused on student engagement, interest, focus, and involvement, such as:

Students are engaged, students *want* to learn, students are rewarded for participating appropriately and asking good questions/ providing good answers, students are *leading* the learning, teachers take student input into account; struggling students have remediation opportunities that allow them to feel empowered and in control of their learning. (Participant 5; emphasis in original)

Seventeen teachers (39.5%) described evidence of motivation in terms of work, focusing on factors such as the performance of work and even compliance. A typical response that was coded work was: “In the classroom, working without prompting and active, eager participation are evidence of motivation” One teacher stated that compliance was evidence of motivation, echoing Brophy’s idea (1999b) that many people understand motivation in terms of control.

The fourth question asked teachers to explain what they considered to be obstacles to motivation in the classroom. On this item, many teachers listed multiple obstacles; thus many of their responses were coded under more than one code. Accordingly, a tally of responses under each code is given, but a percentage is not. The coding structure began with expectancy, value, and belonging. Three other codes emerged from the data, two of which were categories of codes. The first consisted of outside factors ($n = 25$) related to the home, parents, peers, and or other factors beyond the classroom or the school. The other code was constraints ($n = 16$). Constraints were

school-based and included school culture, students' academic readiness, time, curriculum, testing, and materials and resources. The third additional category was teacher factors (n= 4). These four teachers in effect admitted that they themselves could be obstacles to motivation; however, they did not focus on their instructional quality but rather on their affect: their own morale, motivation, or inability to engage students. Table 3 presents the tallies for each code.

Table 3

Obstacles to Motivation in the Classroom

Expectancy	2
Value	7
Belonging	2
Outside Factors	25
General	6
Home	13
Parents	5
Peers	5
Constraints	16
School Culture	1
Academic Readiness	9
Time	5
Curriculum	4
Testing	2
Resources & Materials	3
Teacher Factors	4

Notably, many teachers considered obstacles to motivation to be factors that are, to a large extent, beyond their personal control: outside factors and constraints. One teacher's response was representative: "Lack of emphasis on learning or education at home; lack of

food, sleep, necessary survival keys.” Sixteen teachers gave examples of school-based constraints as obstacles to motivation, such as: “Some students are well below grade level, therefore it is hard to build their self-confidence.” Importantly, seven teachers specifically mentioned students’ academic readiness as an obstacle to motivation. Within a teacher’s control, though, are teacher factors such as her own affect and presence in the classroom. One teacher stated that a teacher’s own “personal morale” could be an obstacle, and another wrote it was an obstacle when a teacher could not get every student involved. Overall, teachers largely understand obstacles to motivation to be factors that originate outside the classroom and thus are beyond their personal control.

The questionnaire data revealed that teachers do tend to think about motivation in terms of expectancy. Their emphasis on expectancy aligns with the research focus on expectancy. Specifically, teachers tend to define motivation in terms of expectancy and to bring aspects of their definition of motivation into their classrooms through expectancy, especially affective ideas like encouragement and excitement. However, teachers also emphasize belonging. Almost forty percent of teachers ranked belonging as most important, in comparison to expectancy and value. While it may seem odd that teachers, as a group, define motivation in terms of expectancy yet rank belonging as most important, there is a way to reconcile these findings. Teachers may define motivation in terms of personal relevance but rank belonging as so crucial because expectancy can be achieved through belonging. In other words, if a student feels like she belongs academically and socially, she will begin to have expectancy for success; she will, in

other words, begin to believe that she is capable as a result of her having a place in the classroom environment.

I looked for patterns, or “profiles”, across teachers responses to various items, and then I compared the number of patterns with those on my pilot study of pre-service teachers. First, I looked for patterns across the first, second, and fifth items, which asked teachers to define motivation, tell what aspects of their definitions they bring into their teaching, and then rank the three domains. Then, I looked for patterns across all five items, including evidence of and obstacles to motivation. Table 4 shows the tallies.

Table 4

Patterns in Responses

	Number in Study	Patterns across Items 1, 2, 5	Patterns across All Items
Teachers (this study)	43	22	37
Pre-Service Teachers (pilot study)	48	14	42

When I looked across the first, second, and fifth items for teachers in this study, I saw that many of these twenty-two patterns were unique to one or two teachers. There was one pattern shared by six teachers (14% of all teachers). These six teachers all defined motivation in terms of expectancy, wrote that they brought aspects of their definitions of motivation into their classroom through expectancy, but then ranked belonging. This pattern of response is one indicator that teachers do think about motivation through the

interaction of domains, according to key questions. By comparison, there were fourteen patterns for pre-service teachers' responses.

When I looked across all five items, there were many more patterns: thirty-seven for teachers and forty-two for pre-service teachers. For teachers' responses, there were no clear patterns—strictly according to the coding scheme. Far from interpreting teachers' responses as random or lacking in depth, I began to wonder how the teachers understood the domains to interact, and that became one point of inquiry for the multiple case study.

In addition, the results from the questionnaire did not yield strong evidence of consistency across all teachers or even within some teachers' responses to different items on the questionnaire. To gain a stronger idea of consistency would require me to follow a teacher into the classroom. The design of the study, with the case study following the questionnaire, allowed me to investigate questions and trends that arose from the questionnaire through the case study.

Phase II: Multiple Case Study

It was important to include a case study within the overall design of the study so that I could explore teacher thinking about student motivation over time, with multiple sources of data, and in the classroom context of each teacher (Stake, 1995; Yin, 2009). The case study, in essence, allowed me to see how each teacher's beliefs and actions related to motivation interacted. The questionnaire phase of the study helped me establish patterns of thought that emerged from this sample of middle school teachers. The multiple case study was important for understanding how teacher thinking about student

motivation, both by case and across the cases, emerges through time and is revealed by teacher statements and actions.

Each of these teachers is different, yet they are similar in that I was interested in discovering each teacher's lay theory of motivation. I first got to know each of the teachers through my involvement with a Middle Grades cohort; each of the case study teachers had been a cooperating teacher for one or more students in that cohort or in a group of graduate students in Middle Grades education. Additionally, each of the case study teachers completed the questionnaire in Phase I. Their responses on the questionnaire, along with my prior knowledge of who each was and how each taught, informed my decision to ask each of them to participate in the case study phase of the study.

I will discuss each case separately and then consider themes across the cases and phases of the study.

Pseudonym as Hermeneutic

Teachers in the case study phase of this study had confidentiality but not anonymity. I wanted to assign each teacher a meaningful pseudonym that protected her or his identity. Since I am a student and former teacher of mythology, I began to wonder what, if any, mythological metaphor (Lakoff and Johnson, 1980; Marshall, 1990) each teacher might have as part of my ongoing data collection and analysis. I tentatively assigned each teacher a mythological pseudonym (cf. Harris and Platzner, 1998; Powell, 1998). These mythological pseudonyms also became hermeneutics that allowed me to think through each case in a different manner. In attempting to find the closest alignment

between a member of the Greek pantheon and each teacher, I explored various identities until I came upon what I think is an appropriate match for each teacher. Far from constraining my view of who the teachers are and how I saw them, this approach helped me to think through each teacher in a range of dimensions, from her or his demeanor in the classroom to interactions with students, statements about motivation, teaching associated with motivation, and overall instructional personality. I wrote a three-paragraph profile of each teacher in which I explained the teacher in terms of a mythological alter ego. Each teacher member-checked her or his profile by reading and commenting on it in a face-to-face meeting with me at the conclusion of the study. In all of my field notes, I referred to the teachers as A, B, C, and D in the order that each joined the study.

Of the four cases, I consider two to be solid and two to be strong in terms of each teacher's lay theory of motivation and how it is revealed in the classroom and through interview. I consider two of the teachers to have stronger cases because of the strength of their lay theory and how their thinking and actions interact; throughout the study, these teachers revealed how their lay theories acts as filters for new information, how they frame teachers' understandings, and how they are consistent with actions (Fives and Buehl, 2012; Kagan, 1992). I consider the other two cases to be solid but not as evident, or manifest, as the other two because the lay theory was not as "highly personalized" (Kagan, 1992) or as clearly linked to actions in the classroom. Each teacher in the case study had a lay theory of motivation that emerged over the course of the study. Because I

want to bookend the presentation of the cases with the stronger cases, I present them in this order: Demeter, Artemis, Hermes, and Athena.

Demeter

In Greek myth, Demeter is goddess of the harvest and, most notably, the mother of Persephone. When Hades abducts Persephone and takes her to the Underworld, Demeter falls to pieces over the loss of her child. Demeter demands that Zeus compel Hades to release Persephone. However, since Persephone has eaten pomegranate seeds in the Underworld, she can't be allowed to return to the upper world free and clear. Instead, she spends half the year with Hades in the Underworld, and half the year here with her mother. At that time, Demeter is happy, and, allows plants to grow. The name Demeter includes the Greek "meter" (mother), which reminds us of her fierce maternal love.

Demeter the teacher strives to make personal connections with her students and to give each of them a sense of belonging, empowerment, and a real safe place at school. I got to know Demeter before this study and knew her to be a teacher with whom students shared their personal trials, tribulations, and celebrations. Demeter teaches eighth-grade Social Studies and Language Arts, and she also coordinates the eighth-grade overnight trip. She is invested in the students' success as they transition to high school, and she tutors and otherwise keeps tabs on many former students. When I met with her to discuss her participation in this study, she agreed enthusiastically but cautioned that her afternoon schedule might be tight—she had recently become a foster parent to one of her students from last year. This news fit entirely with the caring persona I had observed in Demeter before the study and throughout the study. At the end of our initial interview, once I had,

unfortunately, turned off the tape, Demeter mentioned to me that another teacher had commented that in her relationships with students, she “loved them into submission” in the sense that she gained trust, respect, and hard work from students through personal caring and connections.

Demeter has taught at Augustus Middle School for her entire teaching career. Her first love is Social Studies, and this is her second year teaching Language Arts. Before she went to school to become a teacher, she spent a few years as a hairdresser. When she was in high school, she was accepted to the college of her dreams but was unable to attend due to a financial hardship. Demeter moved out early and supported herself right out of high school. She went to beauty school because it was a short-term program she knew she could afford. After a few years in that business, she decided that she wanted to go to college and become a teacher, according to her life-long dream. Demeter comes from a family of educators. A great-grandmother was the first college-educated teacher in a nearby county, a grandmother was the first woman on the school board there, and an uncle was such a successful and revered teacher of Language Arts that he had a prestigious advanced grammar class for which prospective students had to write applications. Being part a family of teachers is a source of pride for Demeter.

On the day that I met with Demeter for her to check the profile above, she was waiting for a meeting about the upcoming eighth-grade overnight trip. She told me that the meeting might be contentious; she thought it was serendipitous that she read her profile before that meeting because, as she told me, “I needed to be reminded of who I was.” This statement reflects the importance Demeter places on understanding herself as

a teacher and being true to that vision (Duffy, 1988); it also reflects how her lay theory of motivation does act as a filter for her actions, or how she wants to act.

When I asked Demeter how she decided to teach middle school, she noted her own disposition:

I think that that was just like a personality thing... I had a really hard time at this age, staying in a seat, because, you know, this is kind of, like, when it gets real. And I've always felt really bad for other kids who go through that difficulty with the transition from elementary to high school- it's such a transitional time. And I thought if I could teach middle schoolers, maybe I could help them through that transition.

In this excerpt Demeter revealed her own struggles as a student and her desire to help other students navigate what can be difficult years. In parts of this interview and others, and in class, I saw the particular attention she gave students going through difficulties. Her attention to them was one instance of the consistency between her thinking and her actions; her concern for the students framed her involvement with them, many times outside of class.

In the initial interview, I also asked her how motivation was part of her overall teaching, and she said:

..it's a constant consideration, and I think that, when I think back on the importance that my family put on grades and the importance, not even on grades, but how much you were learning, and how much of an effort you were giving, being in class and doing your best and that kind of thing. I can't see evidence that that's something that the kids, that I teach, get at home. I think trying to find ways to motivate my students is probably *the* number one most important thing I think about every single day.

Demeter, with this comment, showed the importance that she places on motivation, and how that derives from the emphasis on effort and learning in her family background and her belief that many of her students do not have a focus on motivation at home. Because of that, she is very invested in motivation. She mentioned that she has read several books and articles along the way in her quest to understand motivation. For Demeter, motivation is a constant consideration that she frames through an emphasis on belonging.

She understands obstacles to motivation, to a degree, in terms of belonging because she is concerned about students' lives outside of school. Demeter told me that many students at Augustus Middle come from "working poor" families; some parents are not able to spend as much time with their children because of jobs and other pressures. Demeter told me about one student who had been very unmotivated in school:

He was hungry, and nobody was paying any attention to him, he wasn't being taken care of, and he was angry and he was acting out in class. And it's almost like, sometimes, this is the only place they can just let loose and not be worried or not be stressed, not have to deal with abusive parents or *neglectful* parents, or that kind of thing. And I think, you know, we have a tendency to assume that it has something to do with us, when most of the time, it's what's going on in their life.

She perceived that the student misbehaved in school and with her because he felt safe. Even though she did not approve of the student's raw behavior, Demeter saw it as evidence that the student was being authentic and unguarded with her. In this example and others, Demeter errs on the side of supporting the students. Demeter explained later that "motivation starts at home...in a value yourself way", meaning that students needed to value themselves enough to get the education they deserve. Demeter also thought that "that a lot of parents forget that teaching kids to value themselves enough to care about

their education is the most important thing you can do.” These comments reflect Demeter’s awareness of students’ lives outside of school; she sees her responsibility as teaching her students more than content alone. Again, her lay theory related to belonging frames and interacts with her actions.

Very early in the case study, I began to see how Demeter focused on belonging by being a nurturing and caring teacher. In the initial interview, I asked Demeter about a time she knew that she had said or done something that clearly motivated students, and she responded by elaborating on how she taught students about paradigm shifts as part of their study of *The Seven Habits of Highly Effective Teens* by explaining two powerful paradigm shifts she had experienced. The first happened after the birth of her daughter at the end of her second year teaching:

And when I came back in on the first day of school the next year, I looked at my students and I saw each one of them as somebody’s baby that was important to someone as my child is to me. And just the awesomeness of the responsibility of teaching these kids every day just kind of struck me, like ‘Oh my gosh, this is huge.’ And it was such a paradigm shift for me, the way I felt about them that I was almost just completely different after that. And so I explain that to them and that, that that’s the way I see them now, as someone’s child, and I tell them that. And you don’t have to have kids to be a good teacher or have a child to understand that responsibility, but I did. And they just really respond to that. And they’ll come back and tell me that they went home and told their parents about it because they were amazed that teachers felt that way.

After becoming a mother herself, Demeter began to see her students in a different light.

This shift relates to her nurturing demeanor in the classroom.

The other event that prompted a paradigm shift for Demeter happened during a lockdown drill years earlier. She said that when she prepares students for lockdown drills now, she tells them how she will protect them:

I'm thinking about the thing that happened [at another school far away] and I will protect them until I could not anymore. I mean, there would be no doubt about it. And they always just really respond differently to me after I tell them these stories, because they're like, 'Oh my gosh you really care about us would you really do that? Would you really fight off an intruder?' And I always say, 'To the very best of my ability.' And they care so—it's amazing how much more they care about what they do for me in class when they realize how much I care about them. And just as people, not even as students. Or, you know, producers of grades. Just because they're human beings and they're valuable to me. That's a huge thing for them, especially at this age.

This comment reflects the value she places on caring in her classroom, especially for young adolescents. Several weeks after this interview, I was observing Demeter four days after the school massacre in Newtown, Connecticut. When I entered the classroom for this first-period class, I saw a free-writing prompt about school violence that Demeter had posted the day before. Augustus Middle had scheduled a lockdown drill for that day, and Demeter went over the procedure at the beginning of the period. Students asked if she was going to get out a special pair of scissors, which she had spoken of in interview with me, so that told me that she had shared the lockdown story with this year's students. Demeter told the students to cluster as tightly as possible in the area near her desk but reminded them about a new student who had just joined the school the previous day. Demeter assured the new student: "In this class, we're close, because we all love each other." It is important to Demeter that she have positive relationships with students and that they also have positive relationships with each other. In a post-observation interview,

I asked her how she thought students were responding to comments like the one she made during the lockdown drill about the students caring for one another. She replied:

I do think my first core is responding to that; my third and fourth core are responding to that. It's...different ...between each class. ...That class [fourth core], they love each other, but I have to be tolerant of a lot of craziness in there, but we- I try to mix in the whole- 'Yeah, we're crazy, but we love each other anyway.' That kind of thing. And then in my third core, it's a weird mix... And I've tried really hard to create an environment where they feel caring toward [one another]. And, and for the most part that has happened.... So I've tried to make that a 'We accept you no matter what' and 'We're all different, and we learn in different ways, but that's OK, we love each other.' And my second core is the one that I've had the hardest time with... And it is really, really hard for me to... create that environment and meet all of those needs at the same time.

This statement reflects Demeter well. She is very attuned to individual students and to the overall classroom environment. She often speaks in hyperbole, which endears her to her students. Her frequent use of words like “completely”, “amazing”, or “crazy” fits in with her enthusiastic nature, and it is a language habit that connects her to the students. This excerpt also shows that she struggles to create a positive classroom environment and meet students' needs and that she realizes that different classes will have different dynamics and different needs. She struggles, in part, because she is so committed to student belonging.

Throughout the study, I continued to think of her colleague's remark that Demeter “loved them into submission” through her efforts to make connections with students. I observed many instances in which Demeter made personal connections with her students, and when they in turn made personal connections with her. Demeter, through time, commented on various students' parents or older siblings in a natural way that revealed

that she knew about her students and their families. In the final interview, I asked Demeter to elaborate on the idea of loving them into submission; she smiled and replied:

I do everything I could possibly do to make a connection with them. From the beginning, to figure out, I mean, I have them explain, you know, their family, and tell me a lot about... entry assignments that tell me a lot about who they are and what they like and what they dislike, and I actually do read those and try to identify students by those things. And, you know, I do my best... I'm probably crazy to do this, but I watch sports because, when they talk about it, I want to be able to talk to them, and I listen to the music they listen to because I want to know what they're talking about when they use terminology from the music. It's just so much easier for me to build a relationship with a student and then- I don't want to say use it against them, but hopefully even if they don't want to do it for themselves or they don't want to do it for their parents, they want to do it for me.

Throughout the case study, I observed many examples of Demeter engaged in all the actions she described in the final interview. She feels that her students respond positively when they see a teacher like her who cares and “tries to expose them to a lot.” These many instances of Demeter making personal connections with students come from and reveal her lay theory.

Demeter tries to support belonging in part by understanding her students' cultural points of reference, such as movies, music, and sports they like, and also her students' cultural backgrounds. When she taught students how to analyze poems, she used a three-step strategy developed by two other teachers at Augustus Middle. Demeter sensed that students were conflating the steps and rushing through the example poem, so she asked students to think of a favorite song. She asked them if they had loved those songs the first time they had heard them, or whether it had taken repeated exposure. The students agreed

that they began to like some songs more after repeated listening. Demeter asked students to share what their favorite songs were. As students named their favorite songs, Demeter made comments about songs and artists she liked as well. Through this exercise, she gave the students a chance to talk about songs they loved and also connected the idea of repeated exposure to the idea of reading a poem more than once to gain a sense of it. Demeter recapped for them, “A poem is like a song”, giving them a framework for understanding how poetry worked.

To model the use of the three-step strategy, Demeter passed out copies of Naomi Shihab Nye’s poem, “Valentine for Ernest Mann”, which begins with the line, “You can’t order a poem, like you order a taco.” Throughout the reading, Demeter asked students to comment on the poem and what they thought about it. Demeter paused on the line, “Nothing was ugly because the world said so” and asked students what that meant. After a few students offered ideas, Demeter summarized, “So the meaning is, think for yourself.” It is important for Demeter to highlight messages like this for her students so that they experience belonging and success.

Demeter works hard to make content relevant for her students. She commented that students work hard for her because they know she cares for them. In the initial interview, she described her first experience teaching Language Arts the previous year:

It was tough. But—they all grew. Every single one of them grew. And I truly, I’m not nearly as good a Language Arts teacher as I am a Social Studies teacher, but I believe it is because they knew I cared about them. And I wanted them to do well. And I encouraged them, and I made them feel like they could do it. That, I think, is why they grew. Not because I’m great at teaching Language Arts because I’m not.

In this interview, Demeter underscored how she supported her students' success through encouragement and caring. In this way, her focus on belonging expanded to include expectancy. She gave them the message that they were able to do more complex academic work and that they did belong in the group of students who achieved high test scores and attained other academic accolades. Demeter wanted students to gain academic skills and life skills as well. In a lesson about denotation and connotation, she commented on students' example sentences showing connotation:

These are great. This is a really important thing to learn and understand. So many times people say things to us, but they use the wrong words, don't they? So this is, like, life lesson stuff. So think about how you choose your words.

Demeter connected a topic on the Language Arts curriculum to students' word choices and overall communication. Her statements here emanate from her concern to support belonging through successful communication.

Demeter emphasized that motivation was important to her, especially with the shift to the Common Core; she expected that higher-order thinking required by Common Core would be difficult initially but worth it because it made learning "more real and more about deep understanding" and that that shift would be "motivation in and of itself." For her, tasks could foster motivation through all three domains—expectancy, value, and belonging.

Although Demeter stressed belonging in her classroom, she understood motivation to be more than belonging alone. She spoke of many students who are recent

immigrants, and how their motivation “kicks in” once they begin to become proficient in English and acculturated to life in America:

That realization that they are capable is when it [motivation] happens. It's amazing... when it happens. That they realize that they are capable and can have whatever they want... if they work hard. That, to me, is one of the coolest things... I have certain kids that they will become motivated when they realize that I'm going to do whatever it takes to motivate them.

This quotation focuses on expectancy, and Demeter helps students gain a sense that they are capable by caring for them and working hard for them in and out of the classroom.

By the end of Demeter's case study, I thought that I had witnessed her lay theory of motivation as one that prioritized belonging as a basis for expectancy and value.

Demeter had ranked value first on her questionnaire, and had spoken of value and relevance at different points throughout the study. In the final interview, I asked her to comment on the three domains and how she saw them working. Her reply was:

I think that 'Can I do this?' And 'Do I belong?' And 'Do I want to?' - it's almost like a cycle. Can I do this, well, belonging is connected to that, to me, and I looked at this, and I was thinking, I can only see this as a cycle. If you don't feel like you can do it, then you don't feel like you belong. And if you don't feel like you belong, then you don't want to. If you don't want to, you don't feel like you can do it. So, to me, they're all so interconnected.

In this response, she clearly articulated how she saw the domains interacting. My analysis of her case is that she focused on belonging first through her caring, her efforts to connect with students, and her focus on the classroom community.

I consider Demeter to have a strong case because she focused so intently on who her students were and how she could support their success in school by fostering

belonging and making content relevant and real for them. Her affable demeanor facilitated her informal interactions with students throughout the day and showed students that she was interested in them beyond the classroom. With academic tasks, she connected the content to popular culture, life skills, and high school readiness through her many examples. By sharing anecdotes at various points, she showed students how she learned from them and tried to understand different perspectives.

Artemis

Artemis in Greek myth is a youthful goddess who enjoys being in the company of her band of followers. Artemis is the goddess of hunting and young animals; she protects young animals, who are unable to protect themselves, and endorses hunting in a manner that respects the animal. She has a playful side but can also mete out fierce retribution when she is wronged. The hunter Actaeon dared to hide and spy on Artemis as she bathed. The huntress, discovering him, turned him into a stag, and Actaeon's own hunting dogs fell on him and devoured him. Artemis has a light side—and a serious side.

Artemis the teacher is the youngest in the case study. As a younger teacher, she shares more points of cultural reference with the students. She is a particular fan of gaming, comic books, and geek culture overall; my use of the word “geek” reflects my own positive connotation of the word as well as the term she and others would use. Artemis sponsors a comic book club at Augustus Middle. She is particularly eager to see what will come of the tablet grant that the district won for middle schools. I gave her the pseudonym of the goddess of hunting because she is the youngest teacher in the study

and thus identifies more with her students, in some ways, than she identifies with other teachers.

Artemis teaches seventh-grade Language Arts and Social Studies. This is her sixth year teaching and her fifth year at Augustus Middle. She taught at another middle school her first year, and she related that it was a stressful, high-needs environment. Her many positive comments about the school culture at Augustus are sincere and also held in contrast to her experience her first year.

Artemis is focused on students' needs. On her questionnaire, she ranked the domains as: belonging, value, and expectancy. In her teaching and in interview, she lived out that ranking, though in a very different way than Demeter did. Like Demeter, though, Artemis is attuned to students' needs and their lives outside of school. She praised the positive school culture at Augustus Middle for supporting belonging and inclusiveness. Whereas Demeter focused on outside factors as obstacles to motivation, Artemis mentioned within-school constraints as obstacles to motivation on her questionnaire, in interview, and sometimes during class. Artemis saw time especially as an important commodity for reaching students and supporting their motivation. When I asked her how she influenced student motivation, she responded:

The spending time part is number one. Letting them know that you care, just having that extra time, because, you know, a lot of kids, they don't see their parents a lot at home... So, just letting them know that they're worth that time and, that can be draining for a lot of teachers to, you know, do that extra tutoring time, or they may not have the time outside of their family obligations, but I think it's really worth it.

In describing what made her time worth it, she mentioned students' test scores as well as their higher achievement in class or their motivation to read. Through this comment, Artemis shows consistency between her lay theory and her actions; throughout the study she frequently reminded students of upcoming tutoring opportunities or referenced examples from tutoring as a way to encourage students to participate.

Artemis also focused on student needs when I asked her how she became a teacher. She came to middle school specifically because she saw a need for good teachers at that level and because she thought her disposition was well-matched to middle school students:

Mainly, the motivation to want to teach... I did have some incredible elementary school teachers, some incredible high school teachers. I did *not* have very incredible middle school teachers, so it was actually kind of the *lack* of good teaching in middle school that made me want to be a middle school teacher, seeing that need there.

She articulated her idea of teaching as a vocation in the etymological sense of it being a calling, rather than a mere job.

Also in her response, she used the word "motivation". This excerpt came from the start of our initial interview, which was at the beginning of the study. Artemis seemed eager to reflect my use of language at first. I began to worry that she might say what she thought I wanted to hear (Fang, 1996). This first interview started more as a question-and-answer enterprise than a conversation, as I had tried to foster through my protocols and my own demeanor. Through probes and follow-up questions, I feel that I was able to put Artemis at ease and establish an environment in this interview and going forward in

which she felt that she had the chance to explain her thinking, and not that she was being judged by me. In subsequent interviews and in observations, she did not adopt my language about motivation; over my prolonged engagement in her classroom, I was able to minimize my impact on her teaching.

Artemis was interested in motivation as a topic of study because she struggled to find out how to support student motivation:

Sometimes it takes a while to figure out, you know, what's the best motivation tool. And it's very, very flexible from class to class and throughout the year. Something that might motivate my students at the beginning of the year may not be a motivator at all toward the end of the year. And definitely with different groups of kids, you have different motivators. It's something that's always changing.

I see this struggle as an asset, that she understood motivation as a topic of concern and reflected on how to better foster motivation in her students.

When I asked her about a time she thought she had clearly influenced student motivation, she responded generally by talking about motivation to read:

It's so important to get them motivated to read, and that's something that I've really been working on. And that motivation to read is... almost completely intrinsic, you know, because it's something they desire. You know, there's a material book, but it's not possessing that book that they want, it's the reading of the book. So, getting a kid hooked on reading is the greatest reward, you know, the reading teacher can get. And that's happened several times. It makes me feel good, it makes them feel good....And locking in to each individual student's interests is a big part of motivation...

As a Language Arts teacher, Artemis celebrates when she sees students start to read more and more throughout the year. She also related students' motivation to read to test scores,

which became another theme in her case. Artemis mentioned testing in one form or another more than other teachers in the case study. I attribute this to her being the teacher with the fewest years of experience and also to her general concern for students' high test scores.

By observing her classes, I was able to see that Artemis facilitated a classroom learning environment that was laid-back, yet productive. She began each Social Studies lesson by viewing and discussing CNN Student News. She began most Language Arts lessons with daily grammar practice or vocabulary study. These routines supported students' expectancy for success through predictability. These routines also were linked to her beliefs about supporting belonging through expectancy. For CNN Student News, she generally included discussion or media literacy questions such as, "What does it mean to be a journalist?" or "What could be some clues that you are getting news from a trustworthy source?" Through these questions, Artemis scaffolded students' understanding of and appreciation for range of topics. Showing the news and discussing it each day was a way for Artemis to meet students' needs by making sure they were exposed to current events and issues in the news.

Artemis also supported student needs and their understanding of current events related to the 2012 presidential election. She gave students viewing guides for each debate and also stayed after school to re-play the debates after the fact so that everyone would have a chance to watch. On the day of the election, Artemis gave Social Studies students a blank United States map and instructed them to watch election results and color-code each state by its electoral votes. She put the map on the document camera and

elicited state locations from students. When students were not able to identify Massachusetts, she prompted them, “I’ve heard some of you say you want to go to Harvard, so you better know this state!” This type of prompt supports student belonging through academic success. Even quick comments like this can foster expectancy for success in students.

Earlier in the fall, before her case study began, Artemis had done a voter registration drive with her students. Through that drive, she had learned that many students’ parents were unable to vote because they were recent immigrants. That knowledge influenced Artemis when her Language Arts class began to plan for a reading seminar under the Common Core curriculum. She said that the prompt the teachers received from the district was “Can immigrants be patriots?” Because so many students at Augustus Middle are immigrants or children of immigrants, Artemis and some other teachers decided to prepare an alternate topic, “Can athletes be heroes?” with Lance Armstrong and Tiger Woods as specific athletes to discuss. Artemis said that she went with the alternate prompt because she thought the first one was “a little too controversial” for her students. By changing the topic, Artemis and her colleagues were responding to students’ needs.

When I asked her how she had thought about motivation during the seminar, Artemis said that she considered motivation to be “built in” to the task because students enjoyed speaking. She elaborated that students generally find motivation when the academic task allows them to speak or debate or engage in a simulation. In her Social Studies class, I had observed parts of two engaging scenarios in which students assumed

the roles of explorers and then Enlightenment thinkers. Artemis explained how she valued simulations and has not done more because of the planning and creativity involved. She is especially excited about a technology grant that had just been announced through which middle school students in the district would be able to use tablets. A gamer herself, she understands the strategy and higher-order thinking involved in many simulation games, and she is eager to see more simulations in the curriculum.

By discussing the tablet grant, Artemis also returned to two themes that had emerged through her case: a focus on grades and competition, and her sense of a dichotomy between younger teachers and older teachers. One caveat she had when she considered doing more simulations was grading: “Kids could learn that way, but... how do you grade someone playing a game?” She also focused much more on end-of-course tests, pre-assessments, and other outside assessments than the other teachers in the case study. She specifically mentioned some apprehension about grammar and vocabulary being tested, so I think her focus on testing stems from her anxiety about her students’ success. Artemis also focused on older teachers in a way that other case study teachers did not. In regard to the tablet grant, she anticipated some older teachers who might leave the district because they are “resistant to change” and more negative. She did not mention specific colleagues or specific interactions, so I think this perceived dichotomy is another reflection of Artemis’s youth relative to other case study teachers and colleagues at Augustus Middle.

In the final interview, I asked Artemis again how she promoted motivation in the classroom. She replied that the main idea was to stay positive and elaborated: “being

personally encouraging to each student. And that, and part of that is getting to know each student as an individual. What's going to motivate this kid compared to the other." In these comments, she returned to the idea of supporting student belonging by meeting student needs. Artemis also stated that some students seem to show more motivation for teachers who are also coaches; in other words, teachers with whom students interact beyond the classroom. She saw her role as a club advisor in a similar way:

The biggest improvement I've seen with the club, one reason why I keep doing it even though I don't get paid for it or anything, is because they have a place where they feel like they belong. And I think that's so important, especially in middle school. So I think that improves their overall middle school experience that way, and they feel more accepted.

Artemis again sees her role as club advisor as a way to meet students' needs. Students also achieve belonging and inclusiveness, she thinks, through the overall positive school culture at Augustus Middle. When I asked her about a time she felt that she had influenced student motivation, she hesitated:

I think kind of asking that question, how have *I* motivated a student. I don't like putting myself in the middle, like saying, 'Oh, it's me, I'm it,' and so it would be kind of hard for me to say this happened only because of me. Because I always see when I do something, it's also because of the school helping me, and because of parents helping me, too, so it's kind of hard to say, 'Yeah, *I* did this' because I don't feel like it's something I did by myself.

Through this statement, Artemis reveals an understanding that motivation is not a simple transaction (i.e., "I motivate you.") but an outcome of many factors including a teacher, school culture, parents, and other factors. When she looked back at her questionnaire, she

said she still ranked belonging as most important and thought that student belonging could be supported, again, through an overall “team effort” and school culture:

I feel kind of like the school culture that we have already does a lot. Definitely, I just, you know, we’ve talked a lot about the overall attitude of teachers, that that helps us foster a sense of belonging, and togetherness, and just in the way that you interact with students... Basically, just speaking to them in a mature way, rather than...you know, I don’t talk down or baby-talk the kids. I speak to them in a respectful way, and I expect them to talk to me in a respectful way. I talk with them. If they’ve shared an experience with me, if I have a similar experience to share, a lot of times, I will, to show how much we have in common, rather than, ‘Oh, I’m so different from you.’

Artemis, throughout the study, focused on student needs through her interactions with students, scaffolding of academic tasks, her roles as tutor and club advisor, and her mirthful, low-key demeanor in the classroom.

Artemis’s lay theory of motivation begins with belonging. Belonging, in turn, supports student expectancy for success. Through expectancy for success, students come to value their learning. Although each domain is important to her, Artemis focused primarily on belonging through the lens of student needs. I consider her case to be solid because her statements and actions in regards to motivation were consistent throughout the study. I do not consider her lay theory of motivation to be as evident or as pervasive as the two strong cases because her lay theory is still emerging.

Hermes

Hermes, in Greek myth, is messenger of the gods; as such, he alone among the gods is able to travel from Olympus to our world to the Underworld. Hermes is also a trickster and an admirer of those, like Odysseus, who use their wits. In his role as Hermes

Psychopompous, or Leader of Souls, Hermes guides the dead from our world to Hades.

The name of Hermes is also the ultimate root of hermeneutics, or interpretation.

Hermes the teacher was the only male in the case study phase of the study.

Hermes teaches sixth-grade science at Julius Middle School. I align him with the god

Hermes because he has the most consistent implementation of differentiation I have seen in a middle school classroom. Through what he calls the layered curriculum, students in his classes extend their learning about various topics in Science. He interprets the Science curriculum through the layered curriculum like the god Hermes interprets messages for gods and mortals. Hermes the teacher also acts as a guide in the way he structures the layered curriculum; similarly, Hermes the god is a guide. Students are divided into three groups for the layered curriculum, and Hermes differentiates by the type of product students are required to do in each group.

Hermes came to Julius Middle School seven years ago and has taught Science and Social Studies in sixth grade. He went to a teachers college in another state and spent many years teaching second grade and other elementary grades. He went back to school to pursue a degree in religious education but did not complete that program. In his classroom, Hermes maintains a calm, even demeanor that is well-suited to sixth graders. When I met with Hermes to ask him to member-check this profile, he was excited because he had been leading a literacy group focused on mythology, so he had a stronger knowledge base from which to evaluate my thinking. He supported the metaphor.

Hermes's stated lay theory of motivation begins with his efforts to make personal connections with students; he activates that lay theory through his interactions with

students and his use of the layered curriculum. Personal connections are important to make, he thinks, because of the nature and needs of middle school students. Although he began teaching elementary grades, he feels he has a good fit with middle school and commented that, “As I look back, I don’t see how I ever did elementary.” On the questionnaire, he ranked belonging first and explained it in terms of self-worth. In interview, he elaborated that he thinks motivation is “highly important” because it relates to students’ self-worth and identities:

I think it is highly important, and I think it’s highly important in middle school. As I said, that’s when they are forming and developing their first impressions of who they are, based upon, you know, the surroundings, the people. In sixth grade, it’s still the adults, and it’s tied to their self-worth, you know, a person that feels, you know, some of these unmotivated students, I think, deal with a lot of self-worth. And you have to be careful not to feed into that. Because when you do, other students will, so it just makes it worse for them. And I think, as I stated in here, there’s gang members, before that, they’re looking to where they can fit in, kind of a family-type thing. We know that kids bully because they don’t feel that good about themselves. So all of those things are key important things that are tied to self-worth. And if as a teacher you do nothing else but get a kid, you know, excited about being in school, or in learning, to help them to stay in school. You know, to help them to find a ray of light, then you have really helped that kid. ... You begin to see the real them, and they start becoming comfortable with themselves, you know, just the beginning of that process.

Hermes feels that he has influenced students when he helps them “find a ray of light” through positive interactions and personal connections. On a different occasion, he stressed the importance of belonging and supporting students’ self-worth because “if they don’t fit in at home or at school, then we lose them to a gang” and because “students who bully others do so because they do not feel good about themselves.” Hermes wants to

promote self-worth by supporting student belonging. Although most motivation research aligns self-worth with expectancy (e.g., Covington, 1992), Hermes aligned self-worth with belonging; accordingly, I follow his logic and explanation in this presentation of his case.

Whereas Demeter has an effusive enthusiasm and presence, Hermes is more reserved. His demeanor sets a calm tone for the classroom. Like Artemis, Hermes supports a positive classroom environment through a degree of predictability of class routines. Even though Hermes teaches Science as a one-semester course, the atmosphere in his class is not rushed or frantic, and he does not make statements related to a lack of time or an urgency to move forward. One of his goals was for students to “feel comfortable” rather than pushed for time; he sees motivation in “making the environment that’s going to be suitable for them.” After a daily warm-up task, Hermes moves into the lesson for the day. Often, he allots time toward the end of class for students to work on their layered curriculum assignments.

The layered curriculum is a hallmark of Hermes’s teaching. He assigns students to one of three groups for a given unit based on readiness (Tomlinson, 1999): independent, guided, or directed. Within each layer, students can make choices about the tasks they do. The tasks on the independent layer tend to be more open-ended and complex, while tasks on the directed layer are more structured. Hermes tinkers with the layered curriculum from year to year in an effort to make it stronger:

I have wracked my brain in trying to work with that [the layered curriculum] the best way. But, kids, I’m sure even the elementary... you have reading groups. They’re going to know which group is doing what. There is just no way you can

get around it. So what I try to do is tell them that you are working on the work that I think is good for you so that you can be successful. I don't want to give you something that is too hard, that you cannot be successful... And I try to downplay, you know, that one is better than the other one. I just call all of the layered curriculums: one is a guided, one is directed—but it just comes out. They just understand that there is the leveling of it. They just do.

Hermes elaborated that students can move from one layer to another between units. One part of the independent layer is an oral defense, which individual students schedule with Hermes. In an oral defense, a student typically brings a project from the layered curriculum to Hermes's desk in his "teacher cave", as he calls it. Hermes starts the conversation with general questions like, "How are you today?" and then engages the student in discussion about the topic. At other times, Hermes meets with all of the students in one layer to talk through one task or teach a short mini-lesson on a topic within the unit. During layered curriculum time, I generally observed students moving purposefully around the room to gather materials, look at resources, or get netbook computers; the noise level in the room was minimal and productive. Students clearly understood Hermes's expectations, and their self-direction allowed him to spend one-on-one time with many students.

When I asked Hermes how he supports motivation, he mentioned tasks and the classroom environment:

So whenever I'm doing my lesson planning, I'm thinking about what is the best way for me to get students engaged and feel good about what they're doing, as well as trying to create an atmosphere in the classroom where they feel safe, where they feel accepted.

Hermes stressed the classroom environment and personal connections when I asked how he had tried to influence who seemed to be unmotivated. His biggest question about motivation is “How to reach all students, or as many students as possible.”

Hermes has a solid lay theory of motivation that begins with an emphasis on self-worth, which he tried to support through belonging and personal connections. His many statements in interview reflected the importance he placed on self-worth for sixth-graders in particular. He supports self-worth and belonging through his own interactions, which provide a positive model for students: “You treat them with respect and you try to encourage them, other students get in on that. So I think the way you motivate and treat kids is a catching thing: other students see that, and they want to be involved in that.”

While Hermes treats students with respect, I noted very few instances where Hermes made specific personal connections during observation. I understand that a classroom environment rests on more than any one conversation and is revealed through everyday talk and actions (Johnston, 2012); nevertheless, I could pinpoint few specific incidents in my observation notes. Hermes does establish a classroom environment of respect; the ordered productivity during layered curriculum work time is evidence that students understand his expectations. His implementation of the layered curriculum, differentiated by readiness, reflects an emphasis on student expectancy for success. His lay theory of motivation centers on fostering belonging so that students may have expectancy for success. On the questionnaire, Hermes ranked value second because “What we teach and how we teach has to be relevant to a student; otherwise something else will grab their attention.” In interview, he stated that he selected tasks that he thought

students would enjoy and find engaging, and he was able to achieve that goal through the layered curriculum and other labs and activities. Again, though, I could not identify any specific statements from my observation notes related to value or relevance. Hermes has developed and consistent thinking about motivation. In the initial interview, he expressed his reaction to the questionnaire:

I really just found the questionnaire to be *motivating*, for lack of a better word. And I feel like I could really get into it, and it gave me an avenue to talk about how I really feel because, as you stated, you're not really asked about this very much.

This statement supports the strength of Hermes's ideas about self-worth and belonging. I consider his case to be solid because he had a clear and consistent lay theory; at the same time, though, I did not get a compelling sense of how he operationalized his focus on student interactions beyond the important work of fostering a respectful classroom environment.

Athena

In Greek myth, Athena is the goddess of civilization; more broadly, she is known as the goddess of wisdom, but other "W" domains such as war-craft, weaving, and women fall under her aegis. In fact, she wears the literal aegis, or protective armor, given to her by her father, Zeus, as a token of his affection for his favorite child. Athena's mother was Metis, goddess of cunning, who was swallowed by Zeus after he received the prophecy that his child would overcome him just as he had overcome his father, and his father had overcome his own father. After Zeus swallowed Metis, he began to have such an overpowering headache that he begged his son Hephaestus, blacksmith of the gods, to

split his head open with an axe. When Hephaestus struck Zeus's head, Athena emerged, fully clothed and armed, with adult proportions. The goddess of wisdom thus emerged from her father's brain. Athena, also her mother's daughter, uses strategy and wisdom rather than brute force, power plays, deceit, or intimidation. Athena also gives guidance to heroes who use their brains. In disguise as Mentor, she counseled Odysseus; she also mentored Perseus.

Athena the teacher is likewise strategic, resourceful, and exacting in her teaching. Again and again in observation, informal conversation, and interview, she stressed the importance of students' experiencing success. She understands that their success comes in part as a result of her thoughtful and thorough planning and instruction. Daily in Athena's class, students write an essential question and an "I Can" statement; these are common practices in many classrooms, but Athena makes these routines powerful and meaningful through her deliberate focus on the question and statement and the weekly assessment of the statements. Going one step further, Athena also poses a daily "I Can Explain" idea through which students articulate ongoing understanding and application of concepts. This year, Athena teaches Science. She has taught Math and Science in the past but asked her principal if she could concentrate on Science for this first year under Common Core. Like Athena Mentor, Athena the teacher guides her students toward success in the classroom and through extended time after school. I align her with the goddess of wisdom because of her consistent emphasis on success for each student and her role as a mentor to model the preparation and excitement she would like to see and cultivate in her students.

Athena has been a middle school teacher for only three years; she previously taught high school Science, and she also assisted in an elementary autism classroom. For several years while her own children were young, she assisted informally in their classrooms. Before joining Julius Middle as a teacher, she was a parent and co-chair of band boosters. Athena often mentioned a first-grade teacher who mentored and inspired her, and she spoke of some struggles she had while working her way through school. She draws on her own struggles and successes to support her students today. In addition to teaching, she also mentors a small group of beginning teachers at Julius Middle.

Athena had a focused lay theory of motivation that centered on student belonging in support of student expectancy for success. She demonstrated the strongest consistency, or congruence, between her actions and her statements throughout the study. In my third observation of her teaching, there was a small interaction that became a critical incident (Erlandson, Harris, Skipper, and Allen, 1993). Erlandson and colleagues explained that a critical incident reflects a “significant feature” and can highlight “the normal operation” of the context being studied (p. 103). On that day, Athena gave students a pre-assessment before starting a new unit. As she collected papers, one student noted that he hadn’t known much of the information. Athena replied, “In a minute, you’re going to know more.” This quick interaction is entirely reflective of Athena’s persistent, even insistent, focus on student success.

She fosters student success through a range of academic tasks, frequent hands-on experiences, study skills, prompt and ongoing feedback, and student accountability. In the previous observation, Athena was reviewing for a test on weather. Her structured

review included different types of graphic organizers, because of her emphasis on study skills. Leading the review, Athena called on students to remember various assignments and experiences they had done throughout the unit and how those related to the concepts; students referenced a cloud-in-a-bottle, models of fronts, a study of “Hurricane Athena”, and weather reports they had filmed in small groups. Athena’s instructions to students on another day also reveal her focus on success:

We’re going on a journey. A journey in a ship through a cell. But first, we update our Table of Contents. Safety Contract, cell theory. The information is correct: we checked it. Homework is written in your Table of Contents and planner, so there is no excuse: it’s written in two places. So today, cell organelles chart. Classwork. What is the percentage? Thirty-five. So if you missed your homework, work on classwork. It’s a higher percentage.

Athena frequently mentioned grade percentages to support student accountability and transparency. When she checked homework daily, she circulated with a clipboard that had a diagram where she could indicate a complete or missing assignment; she also had students call their parents right away to say they had missed homework, and she tracked whether each student had spoken to a parent or left a message. This record-keeping was one way she modeled her own hard work.

Athena works very hard for her students because, as she said, “I try to give my students what I expected as a student.” After teaching high school for a few years, she left the classroom when her children were born but continued to volunteer in schools, because that was “where I belonged” and because “I’m meant to be here.” She did not return to her own classroom for several years, she said, “because of the effort that I put into

teaching. I knew that my children needed to be independent enough that I *could* put the hours into teaching the way I expect to teach.” This statement reflects the high expectations she has for herself; her energy and effort are models for the students.

She also models value of learning Science and of learning study skills. In a post-observation interview, she explained how she frames the Science Fair for students:

‘What do you like to do? What problem have you come across in doing what you like to do? How can you solve it? And you should think of Science as solving problems throughout life.’ So, I tell them, ‘You’re going to be working on this for several months. Make it something you like. Make it interesting, because you’ve got to be dealing with it. So make it something that you do enjoy doing.’ And that’s where, when I show them the [example] projects, and I tell them the interest behind them.

One of her goals, she said, is for students “to love Science like I do.” The value she places on Science is another model for students.

More than other case study teachers, Athena spoke frequently about her collaboration with other teachers, and of how she gathered ideas and materials from many places to make her teaching stronger:

I’m constantly listening to other people, and what they do, and then I try it, and then I adopt it, and I’ve created a wealth of hands-on activities that really get the kids thinking, and get them to remember what we’ve learned.

Her enthusiasm is palpable, and her constant learning is a model for students. She commented frequently, in interview and in observation, on how she had worked with other teachers within Julius Middle and across the county as they implemented a revised curriculum as part of Common Core. Athena’s use of “we” in this statement also reflects

her frequent, though not exclusive, use of first-person plural language (e.g. we, our, us) with students and also in interview. In another interview, she spoke about getting students excited and invested so “then it becomes our class, not my class.” This subtle pronoun move serves to bring the class together (cf. Pennebaker, 2011) and to support belonging.

Athena sees expectancy and belonging interacting closely. She thinks that many motivation problems begin at home; she did not always have support from home and knows many students to be in parallel situations. This is one reason she focuses so intently on success:

If you can find out how to show them where they are capable, then they’re going to give you more. Because then they’re now proud of what they’ve done, and ‘Let me show her again that I can do it.’

When I asked her in one post-observation interview how she had thought about motivation before, during, and after the lesson, Athena replied, “You don’t think of it as motivation, you think of it as ‘How can I get my students to be successful?’ But that *is* motivation.” Athena had ranked belonging as most important on her questionnaire. I had noticed such a pervasive focus on expectancy in her class, so I began to wonder how she linked the domains. One comment she made helped me understand how she put them together. She was talking about how she teaches her students study skills strategies:

...and I try to share them [strategies] with other teachers. Some teachers... I hear this all the time: ‘You’re just my goal. I will never reach it.’ But if you don’t start—the only reason I have all these systems in place is because I started with one. And once I mastered it, I added another one, and another one, and then... So if I can get them to keep mastering little bits, they’re going to be ready. And I have so many in every class that *will* be going to college...and they’ve got to know how to *get* where they want to go.

Through this statement, she articulated an idea of supporting student expectancy for success so that they would belong and be part of the story (Moje, 2000) wherever they went. In the final interview, I asked again how she tried to promote motivation, and she responded:

I don't think I'm always thinking motivation. That's not the *word* that's in my head. I think what I'm always trying to do is connect with the kids, make sure it's relevant for them, making sure that I'm building up their esteem, building up their confidence, helping them understand that they can be successful. I just don't call it motivation. I want them to love Science the way I love Science.

In this statement, she used language related to expectancy, value, and belonging. She focuses on all three because, as she stated, "I want them to choose their own path." This comment again reflects her lay theory that expectancy for success supports belonging in that students would feel like they belong in a high-school Science elective, for example, or in college, because they would be confident of their ability to be successful. She restated: "Motivation isn't my word, but just making them love Science. Making them feel like they're ready for where they're going next. Making them—helping them feel successful."

What makes Athena's case so compelling is her own identification of her goals for students: she wants them to be successful and to want to be a part of the learning. In interview, she returned again and again to the theme of helping students realize that they can be successful: "And *that's* what it's about: getting them to understand that they can be successful." Through supporting expectancy for success, she supports belonging as

well. Although, as she said, motivation is not her word, per se, she has clear thinking about motivation. Hers is an exemplary case.

Summary of the Cases

The multiple case study phase lasted eleven weeks. During that time, I worked to understand each teacher's lay theory of motivation through observation and interview. Each of the four teachers understood motivation to include expectancy, value, and belonging, although each operationalized her or his lay theory in a different way. Artemis and Hermes had solid cases. Artemis is a newer teacher, so her thinking is still developing. Hermes's statements and actions are not strongly aligned; his actions and words were not in conflict, but his actions did not live out some of his most important ideas about motivation, namely, support for belonging through self-worth. Demeter and Athena had strong cases. Demeter's lay theory encompasses all domains, which she sees in a cycle, and she brings it into action through a strong focus on belonging through connections (both personal and academic), personal relationships, and caring. Athena has a clear and highly realized lay theory of motivation that includes value and belonging but starts with emphasis on and support for student expectancy for success.

CHAPTER IV

DISCUSSION

This was a study about motivation. Through a sequential, multi-method qualitative study, I combined a questionnaire with a multiple case study to investigate middle school teachers' thinking about student motivation. The purpose of this research was to understand teacher thinking about student motivation.

Summary of the Study

There is an extensive body of research on motivation. This research has described several constructs, which Brophy (2010) united in his “informal general model” of motivation according to three broad domains: expectancy, value, and belonging. Much motivation research focuses on expectancy-related aspects such as self-efficacy, goal theory, or self-regulation. Research on belonging is newer and expanding, and there needs to be more research related to value on topics including interest, relevance, and appreciation. Motivation research involves students at a much higher rate than it involves teachers. Of 229 studies thoroughly examined in terms of participants, methods, and domains of motivation under investigation, 164 studies (72 %) included only students as participants. Another forty-two studies (18.3 %) included students and teachers, but only fifteen studies of motivation (6.6 %) focused on teachers. This finding alone is one indication that there needs to be more motivation research that focuses on teachers.

When teachers have been included in motivation research, researchers have (1) asked teachers to evaluate specific students (e.g., Cole, Maxwell, and Martin, 1997); compared student and teacher perception of the same phenomena (e.g., Skinner, Furrer, Marchand, and Kindermann, 2008), or obtained teachers' views of their own narrow *a priori* constructs (e.g., Goddard, Hoy, and Woolfolk Hoy, 2000). Most of these studies also followed a general trend in motivation research away from broad topics toward narrower, mini-theories (Graham and Weiner, 1996). A review of programs of representative schools and colleges of education did not convince me that motivation is a clear and consistent topic of study in teacher education; when there has been evidence that motivation is a topic of study, it is generally linked with classroom management. Research studies of teachers have focused more on narrower constructs rather than teachers' large-scale thinking about motivation, and there is not consistent evidence that motivation is a topic of study in teacher education. These findings also indicate that there needs to be more motivation research involving teachers, and that research should attend not only to specific constructs but also to teachers' overall thinking about motivation.

Research on lay theories and teacher beliefs contributed three main ideas. First, teacher beliefs act as a filter. Second, through time and experience, teacher beliefs tend to become more organized and resistant to change. Last, teacher beliefs interact with teacher actions. While there is not consensus on this point, some researchers such as Kagan (1992) and Fives and Buehl (2012) suggest that there is congruence, or consistency, between teacher beliefs and teacher actions. Stipek importantly wrote, "Motivation theories are important to discuss because everyone has them." (Stipek 2002, p. 8). These

ideas about teacher beliefs and lay theories informed my investigation of teacher thinking about student motivation.

This study focused on teachers and motivation, specifically, how middle school teachers thought about student motivation. In the first phase of the study, I distributed written questionnaires with open-ended items to teachers in two middle schools, Augustus Middle and Julius Middle. There were five items, asking teachers to define motivation, tell how they bring aspects of their definitions of motivation into their teaching, explain what they consider to be evidence of motivation, and describe what they consider to be obstacles to motivation. The final item presented the three domains according to key questions (Can I do this?; Do I want to?; Do I belong?) and asked teachers to rank the domains, allot ten points among them, and explain their reasoning. Forty-three teachers, representing a 40 % response rate, returned the questionnaire.

The second phase of the study was a multiple case study of four teachers, Demeter and Artemis (from Augustus Middle), and Hermes and Athena (from Julius Middle), whom I identified through purposeful convenience sampling (Creswell and Plano Clark, 2007; Yin, 2009). I conducted observations and two types of interview to investigate each teacher's lay theory of motivation. In observations, I took running records (Perry, 1998; Perry, Phillips, and Hutchinson, 2006; Perry, VandeKamp, Mercer, and Nordby, 2002) concentrating on each teacher's statements and actions. Through initial and final interviews, I used a semi-structured protocol to ask each teacher questions related to motivation; in post-observation interviews, I asked participants focused questions about specific lessons observed to gain a sense how motivation had

played a role before, during, and after the lesson, and how the teacher responded to certain statements and actions related to motivation. I wrote profiles comparing each teacher to a member of the Greek pantheon; each teacher member checked this profile. Through this member checking as well as triangulation of data and prolonged engagement in each teacher's classroom (Lincoln and Guba, 1985), I sought to establish reliability with the study.

By examining themes and findings across the phases and cases, I am able to respond to the research questions. There was one set of research questions for this study, with three questions explored through both phases of the study and the remaining question explored through the multiple case study. Then I identify implications of this research for teacher education, policy, and future research.

Response to the Research Questions

Before discussing implications of the study for teacher education, policy, and future research, I will respond to each of the research questions.

Question 1

What do teachers think about student motivation? Teachers think about motivation in several ways. Within a general framework of motivation, teachers in both phases of the study favor expectancy approaches to motivation. This attention to expectancy aligns with a research focus on expectancy (e.g., Eccles and Wigfield, 2002; Brophy, 1999). Teachers also, by contrast, rank belonging as most important, when asked to rank three domains according to key questions. Again, on the questionnaire, seventeen teachers (39.5%) ranked belonging as more important than expectancy or value. Ten

teachers (23.3%) ranked expectancy first, and ten teachers (23.3 %) ranked value first. In their allotment of points across the domains, seventeen teachers (39.5 %) gave no more than five points to their top-ranked domain.

These teachers' responses, taken together, reflect that teachers may see a hierarchy within the domains, but that they also see the domains interacting and influencing one another. One teacher wrote:

I believe that a student's skill level and tasks required to complete have to be at a level that is challenging yet accessible. If students consistently fail, they will lose motivation. A student's desire or interest in a topic or product is also important. Students will be more motivated if the topic interests them, or if they are allowed to demonstrate their knowledge in a manner that allows them to be successful and interests them. A sense of belonging is also important. A student must feel safe and secure in a class. Negative peer pressure, or an overall negative environment will decrease motivation. (Participant 29)

This response is indicative of teachers' prioritizing a particular domain but also understanding the importance of the others.

Question 2

How do teachers define motivation? On the questionnaire, eight teachers (18.6 %) defined motivation in terms of value, and two (4.7 %) defined it in terms of belonging. By comparison, thirty-three teachers (76.7 %) defined motivation in terms of expectancy. Within that group, nineteen defined motivation in affective terms. Another fourteen teachers, almost a third of all teachers who completed the questionnaire, defined motivation in terms of drive. This particular result is surprising given that drive theory is considered to be a historical theory of motivation rather than a current conception of

motivation. Teachers may continue to define motivation in terms of drive because of the continuing influence of behaviorism. One teacher, defining motivation, notably mentioned her aversion to behaviorism:

I believe motivation must be internal and not a result of any behaviorist theory. I have found success in engaging students in a well-planned and authentic activity. (Participant 41)

This teacher's specific mention of behaviorism spurred me to understand other teachers' drive-related definitions of motivation in that context.

Schunk, Pintrich, and Meece (2008) defined motivation as a "process whereby goal-directed activity is instigated and sustained." Several teachers used the word "goal" in their responses, signaling that motivation can be focused toward an outcome. Other teachers defined motivation as a willingness, drive, or desire, sometimes without a specific goal or outcome detailed in the response. However, no teacher's definition of motivation was coded as cognitive, in contrast to six pre-service teachers' definitions on the pilot study. In analyzing the data, I wondered if the absence of cognitive definitions of motivation was related to a possibility that all teachers who participated in this study have been influenced by or drawn to the middle school model, which emphasizes social-emotional components of young adolescents' development in addition to academics. While more than seventy percent of teachers defined motivation in terms of expectancy, almost forty percent of teachers ranked belonging as more important than expectancy or value. This imbalance between two items on the questionnaire points to the idea that teachers see the domains of motivation interacting. At the same time, one may wonder,

“Where is value?” Ten teachers ranked value first, and eight teachers defined motivation in terms of value. Value as a domain matters, but not to the same extent as expectancy and belonging. This finding may relate again to the middle school model, which emphasizes social emotional development (AMLE, 2010; Crawford, 2008). This finding may also relate to a school culture that continues to be defined by high-stakes testing; by extension, this testing culture puts a premium on achievement, perhaps over a component of value.

Through the case study, I found that different teachers defined motivation in different ways. However, each demonstrated a consistency in how motivation was understood throughout the study. Athena, for example, consistently (and insistently) defined motivation in terms of expectancy (even though motivation, she said, was not her “word”), and she often mentioned “success” in interview and conversation with me and in her daily interactions with students in the classroom and one-on-one. Demeter, by contrast, understood motivation more as being rooted in her relationships with students and their belonging as an outcome of her caring and how she fostered the classroom climate. With Artemis and Hermes, it was a little more difficult to discern their day-to-day understandings of motivation as revealed through interview and especially observation. Each placed an emphasis on belonging both on their questionnaires and in interviews. In observation, I saw an emphasis on expectancy, but in different ways. Artemis wanted students to be successful, and that desire stemmed from her attention to student needs. Hermes wanted students to be successful as a support to their self-worth, and he structured the layered curriculum to support success for each student.

Question 3

What trends, if any, emerge from teachers' answers to the above questions? As stated above, teachers tend to understand motivation as an interaction among expectancy, value, and belonging. While most define motivation in terms of expectancy, they also understand the importance of value and belonging. This sample of middle school teachers favored belonging over expectancy and value when specifically asked to rank the three domains. Other trends emerged from the study.

First, teachers understand motivation to be related to academic tasks. One teacher wrote about motivation coming from a “properly contextualized activity” and another wrote that “Students are motivated to complete an activity if they understand its relevance. When I asked Athena, in a post-observation interview, how she had thought about motivation before, during, and after class, she replied:

I don't think I had to worry about motivation too much with the lab- the kids are excited. Science Fair- that was the motivation, I mean that's where I had to really think about it, and that's why I started early on, like I said, about making sure that it was something they were *interested* in.

Likewise, when I asked Artemis how she had thought about motivation before, during, and after a reading seminar, she explained that “with seminar, for a lot of kids, it's... the motivation is already built in; they enjoy speaking.” Hermes similarly grounded his thinking about motivation in a “crime-scene” lab he had prepared for the students, and said he thought about motivation before the lesson “because, the nature of the lesson, it being a crime scene, I think, sparked their interest.” These statements reflect a pattern of response in that teachers related motivation to academic tasks. Interestingly, no teachers

related motivation to classroom management, and that is counter to one trend in teacher education of pairing motivation with classroom management in coursework in alignment with InTASC standards.

Just as many teachers saw academic tasks as a source for motivation, they also related belonging to academics. This is a second trend from the data. Many teachers wrote about the importance of belonging in a social sense, that students had positive relationships with teachers and peers and that teachers needed to provide a caring classroom environment and make personal connections with students. Some teachers also articulated an idea of academic belonging, which again reflects their general conceptions that the domains of motivation interact. One teacher wrote, “If they feel like they belong in this level, they are more likely to learn the material.” On her questionnaire, Demeter linked expectancy and belonging: “Ability or the sense of it gives a student a sense of belonging. A successful student belongs in a classroom.” Athena focused on expectancy for success insistently as one means to provide students with academic belong so they could “choose their own path” and have the ability to be successful and to belong wherever they choose to go.

Third, teachers think that motivation can vary. In this sense, teacher thinking aligns with the research consensus that motivation is a state and can be context-specific. (Paris and Turner, 1994; Schunk, Pintrich, and Meece, 2008). Artemis indicated that one struggle she faced was understanding how motivation differs from student to student; she indicated that sometimes motivation comes from home, sometimes it is intrinsic, and sometimes it comes from a task or from a teacher-student relationship. One teacher

succinctly wrote on the questionnaire: “In a class of 30, there are 30 ways to motivate.”

Demeter elaborated on a similar idea:

It’s always amazing how different kids are motivated and by what, because they’re all so different. They all such unique individuals, and you can so easily fall into the trap of thinking that they can all be motivated the same way or all be taught the same way. And that is just absolutely not the case.

Stronger teachers struggle with motivation, in part, because they want to understand and be responsive to students’ individual needs.

One trend that emerged through the case study concerns the source of teacher thinking about motivation. In final interview, I asked Demeter, Artemis, Hermes, and Athena where they had learned about motivation. Hermes, who generally did not give a lot of biographical detail in any interview, said that motivation had always been “roaming around” as something he thought about. Demeter, Artemis, and Athena all replied that their own background and family were their sources of knowledge about motivation. Each of them spoke first about their own background and only mentioned their teacher education when I asked specifically. That is worth noting because all four of these teachers came through teacher education programs. When asked how they learned about motivation, one of teachers’ top concerns, according to an International Reading Association poll, they privileged their own stories over their formal education.

The teachers in this study offer support to Stipek’s (2002) declaration that everyone has a theory of motivation. Teachers favor an expectancy approach to motivation, but also place emphasis on belonging. Overall, they understand the domains of expectancy, value, and belonging to interact and influence each other. Further, teachers

understand that motivation is related to academic tasks. They also, as a group, link expectancy and belonging when they indicate that academic success can foster belonging. Last and importantly, teachers understand that motivation varies.

Question 4

How do teachers' statements about motivation relate to their teaching? I respond to this question based on findings from the multiple case study. I designed the case study so that I would understand how representative teachers bring their lay theories of motivation into their teaching. Much motivation research relies too heavily on self-report measures (Fulmer and Frijters, 2009), so I wanted to add to the self-report questionnaire data from the first phase of the study by conducting a multiple case study. Through prolonged engagement, triangulation of data, and member checking of some of the data (Lincoln and Guba, 1985), I was able to gain a different sense of each teacher's lay theory of motivation.

At the outset of the multiple case study, I wondered how the teachers' statements about motivation, through questionnaire and interview, related to their teaching as observed by me over a series of nine to eleven weeks. One idea from research on teacher beliefs is that beliefs and actions may or may not be congruent (Fang, 1996; Kagan, 1992). Another idea is that teachers come to develop a "highly personalized pedagogy" (Kagan, 1992) through time and experience. I wondered, in short, how each teacher's statements on the questionnaire or in interview, would relate to her or his teaching. Because I had used purposeful convenience sampling to select strong teachers, I was especially eager to see whether these teachers had it all "lined up" in terms of motivation

because I understand consistency to be a sign of teacher expertise and strong teacher vision, in that the teacher knows her mind (Duffy, 1998). I also understand consistency to provide a framework for a teacher to be able to improvise. Teaching has been compared to jazz (Tomlinson and Germundson, 2007); while jazz has rules and standards, it also allows the musician to improvise within a framework. For my case study participants as well as strong teachers in general, teaching is like jazz in that the teacher has a strong framework for action—in this case, her or his lay theory of motivation.

I evaluate consistency based on my own data collection and analysis and based on post-observation interviews. The specific purpose of the post-observation interviews was for me to understand how each teacher reflected on and commented on her or his teaching practice. I asked participants about specific points in the lesson in order to access their reactions and explanations. These interviews in particular allowed me to understand how the teachers made sense of and understood what I had observed in the classroom.

Of the four teachers, two displayed a strong relationship between their statements about motivation and their teaching. Demeter has a lay theory of motivation that is anchored in student belonging as a way to support expectancy and value. She stated that she sees all three domains in a cycle. Her teaching supports that statement. Although she favors belonging heavily, she also frames belonging in terms of students being able to be successful and find meaning in school. Athena likewise demonstrated a tight relationship between her statements about motivation and her teaching. I evaluated both of these cases

as strong because of the strength of each teacher's lay theory of motivation and how she operationalized it in the classroom.

The other two teachers have solid cases. Artemis, as the youngest teacher in the study, has fewer years in the classroom than her colleagues in the multiple case study. As such, she presents an example case of a developing teacher. Although her lay theory of motivation is not yet highly personalized (Kagan, 1992), she has clear ideas about what matters to her with regard to motivation. Her choice of teaching as a career comes from her desire help meet students' needs. At the same time, she is working on developing stronger interpersonal relationships with students. She struggles to support motivation, which I see as an asset to her own development as a teacher. Her particular enthusiasm about the tablet grant supports her idea that motivation is related to academic tasks. She works on her own and with colleagues to design tasks from which students can derive motivation.

Hermes presents another solid case. At several points, he stressed the importance of self-worth and belonging. Hermes also stated that strong relationships help students achieve a sense of belonging. His implementation of differentiation through the layered curriculum reflects his support of expectancy for success. Although Hermes emphasized self-worth in interview and on the questionnaire, I did not observe a similar emphasis during observation. He certainly designed lectures and academic tasks that are relevant and engaging, but he did not connect these tasks specifically to his stated ideas about self-worth or belonging. He stated in the final interview that motivation has been in the back of his mind, but "as far as capturing it and sitting down and analyzing and thinking about

it ... that's very different." Hermes clearly has strong ideas related to motivation, but when he said this at the end of the case study, I wondered how much he had reflected on those ideas specifically. I came to see that Hermes would be an excellent candidate for an intervention study such as Turner, Warzon, and Christensen (2011); although he has several specific ideas about motivation that are clearly meaningful and authoritative for him, they are not manifestly evident in his actions. The nature of this study was exploratory, and I think he also would enjoy a professional development experience or other research experience based on augmenting beliefs and teaching related to motivation.

Teachers think about motivation in different ways, and to different extents. Through the multiple case study, I began to see that some teachers think about motivation much more than others. For Demeter, motivation is an ongoing interest; she said that motivation was a "constant consideration" and "probably *the* number one most important thing I think about every single day." She has a strong lay theory of motivation that emanates from her concern for students. She sees the three domains in "a cycle" and tethers classroom tasks to student expectancy for success and value of learning through belonging. In a similar sense, Athena had a strong and consistent focus on motivation. While she said that motivation was not her "word", she reiterated her concern for expectancy for student success throughout the study. She described how she encouraged her students to break large tasks into smaller steps:

And it's just getting *them* to learn: 'If I can break it into small pieces, then I'm now going to know the big picture.' And that's how we kind of approach it. And so, we did, you know, we started with, what are the whole big picture, and then

we started delving into the little parts, so [when I said] ‘This is what we’re going to learn.’ They said, ‘I can’t learn all that.’ [And I said,] ‘Oh, but watch.’ And it was amazing how many of them today were going, ‘I’ve got this.’

When reviewing for a test, for example, Athena cautioned students to see the study guide only as providing “short, sweet” answers and to review for several days because, “You can’t spend one night studying for a quiz with labeling. It is not a one-night study. We did not spend one day learning.” Athena structures her class to support student expectancy for success in every way, and that mindset pervades her highly realized lay theory of motivation.

Hermes, though, felt like motivation had been “in the back of my mind” throughout the years. He consistently related motivation to belonging in general and self-worth in particular. While he often stated the importance of these ideas, his actions and statements in the classroom did not bring this lay theory to fruition to the same extent that Athena enacted her lay theory in her classroom. Again, Hermes demonstrated consistency between statement and action, but his actions did not demonstrate his lay theory as clearly as in the case of Demeter or Athena. Artemis, too, had a solid and developing lay theory of motivation radiated from her concern for student needs. Showing CNN Student News, advising a club, and facilitating demonstrations of learning (Bassett, 2009) were some ways that she met student needs through exposure to current events, the world of comics, and relevant and meaningful academic tasks. Her lay theory was developing.

This difference in the strength of teachers’ lay theories of motivation raises two questions, among others. First, why do some teachers think about motivation more than

others? Athena and Demeter have clear theories of motivation. Hermes and Artemis have many clear ideas but their overall lay theories are not as cogent. Second, Artemis's case especially leads me to wonder how thinking about motivation is related to overall teacher development. Kagan (1992) wrote about how many teachers come to have a "highly personalized pedagogy" by developing and drawing on experiences, knowledge, and skills. Demeter and Athena have highly personalized lay theories of motivation. Artemis and Hermes have productive lay theories, but these lay theories are not as highly personalized or organized.

Middle school teachers think about motivation. They tend to define motivation in terms of expectancy. They also place a special emphasis on belonging and understand the three domains of expectancy, value, and belonging to be closely related. Teachers relate motivation to academic tasks, and they understand motivation to vary. All participants in the multiple case study demonstrated actions in the classroom that related to their statements about motivation in questionnaire and interview. All teachers displayed consistency, with two teachers showing less consistency between thinking and action and two teachers showing strong consistency, or congruence, between thinking and action. There are implications of this research for teacher education, policy, and future research.

Implications for Teacher Education

The main implication of this research for teacher education is that motivation needs to be a specific topic of study in teacher education programs, especially those that lead to initial licensure. Many schools of education whose programs I researched online paired motivation with classroom management if there was even evidence that motivation

was a topic of study. Far more meaningful would be a study of motivation in a course such that focused on adolescent development or educational psychology, like many programs may do already. In those courses, pre-service teachers should learn about major theories of motivation including, but not limited to, Eccles and Wigfield's expectancy-value theory (e.g., 2002; Eccles, Wigfield, et al., 1993; Eccles et al., 1991; Wigfield, Eccles, et al., 1997), self-determination theory (e.g., Deci, Vallerand, Pelletier, and Ryan, 1991), social cognitive theory (e.g., Bandura, 1986, 1997), and goal theory (e.g., Ames, 1992; Elliott and Dweck, 1988; Maehr and Midgley, 1991). Pre-service teachers should learn about the three domains of expectancy, value, and belonging from Brophy's (2010) informal general model. While pre-service teachers should learn about Brophy's model, his text may be beyond the scope of a general undergraduate course. There is a need for motivational literature for pre-service teachers as well. Carole Ames's exemplary article "Motivation: What teachers need to know" (1990) is important reading—and now more than twenty years old. More recent literature of this type needs to be written for pre-service teachers.

In addition, motivation needs to be a consistent topic of study and consideration in methods courses so that pre-service teachers are able to consider academic tasks in terms of motivation. Methods instructors should give special attention to Brophy's ideas about scaffolding appreciation so that pre-service teachers can select and design academic tasks from the point of view of appreciation for content. Faircloth's (2009, 2012) collaboration with Language Arts teachers is another guide for structuring academic tasks to fulfill the curriculum and meet students' need for belonging.

Motivation should also be part of the conversation from the first time that pre-service teachers enter a classroom in an internship or parallel experience. There are textbooks (e.g., Kellough and Carjuzaa, 2009) that include structured observation protocols; these protocols foster pre-service teachers' attention to a range of dynamics within a classroom. An observation protocol based on aspects of motivation would help pre-service teachers understand motivation in the classroom. In addition, pre-service teachers can be assigned to speak with their cooperating teachers about motivation, and motivation should be a topic of conversation and reflection for pre-service teachers in their seminars on campus. The deliberate combination of learning about motivation through coursework and paying attention to motivation in the classroom will help pre-service teachers connect theory and practice.

Pre-service teachers also need to have opportunities to articulate and struggle with ideas about motivation. There need to be more studies such as Mansfield and Volet's (2010) year-long study of pre-service teachers and their developing thinking about motivation. Alderman and Beyeler (2008) instructed pre-service teachers to develop motivation "tool boxes". Pre-service teachers should develop so-called tool boxes and also have opportunities to state, enact, and revise their emerging lay theories of motivation.

Another implication for teacher education relates to teachers' statements about obstacles to motivation. One category of obstacles to motivation in the classroom included outside factors like the home or parents. Teachers often struggle to forge meaningful relationships with parents and families, and to understand students' lives

outside of school. Pre-service teachers understand that it is important to know about students' lives in and out of school, and they need to have readings, discussions, and internship experiences that help them understand how to work with parents and families to support students. Demeter especially spoke of her experiences with students from a range of backgrounds. It is important for pre-service teachers to understand parents and families so that, hopefully, relationships with parents and families can become a support for, rather than an obstacle to, motivation in the classroom.

The last implication for teacher education comes from the finding that none of the four case study participants named their teacher education program first when asked where they had learned about motivation. Demeter, Artemis, and Athena all said they learned about motivation from their family or personal background, and Hermes said it had always been "roaming around." All four teachers, though, went through teacher preparation programs. Why did mention their own life experience, rather than their coursework, first? This finding alone suggests that teacher education programs should give more deliberate attention to motivation within and throughout a program.

Implications for Policy

There is an active body of motivation research, but that research tends to focus on students rather than teachers. Because motivation is one of teachers' top concerns, according to a survey by the International Reading Association, teachers need to understand more about motivation; students and schools need to have teachers who understand motivation as part of strong teaching. Currently, teacher evaluation standards in place in the southeast state where this study took place do not include knowledge of

motivation, or an instructional approach or classroom environment that support and promote student motivation. Motivation is mentioned once in the document, under the teacher's ability to motivate students to investigate content in depth. It is right that motivation appears in connection with academic tasks rather than behaviors. The standards, however, should have a more extensive inclusion of motivation.

A second implication for policy is the finding that many teachers list within-school constraints as obstacles to motivation. These constraints include testing, curriculum, time, and materials and resources. Policy makers, school systems, and school-based administrative teams need to understand what teachers consider to be obstacles to motivation and structure resources and schedules to alleviate those obstacles. Teacher input should be considered as possible, especially on topics such as schedule and within-school allocation of time and resources.

Also, collaboration with other teachers was mentioned several times by Athena, and that collaboration contributes to her own success and thus to her students'. By collaborating with other teachers at Julius Middle and throughout the county, she and other teachers plan stronger lessons, incorporate more meaningful resources and tasks, and support one another professionally. Schools need to support teacher collaboration through structured groups such as teams or departments; schools also can support teacher collaboration through structured relationships such as mentor-mentee relationships or new teacher groups. Many schools facilitate these structures, which teachers value.

Last, middle schools should follow AMLE's *This We Believe* as it gives essential attributes and characteristics of schools that are developmentally appropriate for young

adolescents. While motivation itself does not appear on the document, various indicators relate to expectancy, value, and belonging in associated terminology. A school-based attention to the attributed and characteristics on this document will facilitate teachers' having continuing conversations about topics such as motivation.

Implications for Future Research

This study provides a foundation for ongoing research on teacher thinking about student motivation. The guiding question for this research was: what do teachers think about student motivation? This research, as well as the pilot study that informed it, offers a framework for understanding teachers thinking about motivation that is broad enough to capture a range of beliefs yet specific enough to offer a basis for analysis and interpretation. That framework is Brophy's informal general model of motivation according to the domains of expectancy, value, and belonging. While this framework illuminated much of the data, analyzed through constant comparative analysis, this framework did not reflect all of the data. Other themes such as teacher factors, school-based constraints, and outside factors such as parents and family also emerged from the data. Further research is needed to build a more expansive analytic framework for this research as I continue to investigate teacher thinking about student motivation.

First, where does a teacher's lay theory of motivation come from? When I asked case study participants where they had learned about motivation, none mentioned teacher education first; instead, three of four mentioned their own backgrounds. Middleton (1995) asked teachers where they had learned about motivation as part of his study of motivation in math classrooms, and Levin and He (2008) have investigated the sources of

pre-service teachers' personal practical theories. Likewise, I would like to explore the sources of teachers' lay theories of motivation in a future study.

Second, how does a teacher's lay theory of motivation develop? Two of my case study participants, Demeter and Athena, had strong and "highly personalized" lay theories (cf. Kagan, 1992), while Artemis especially had a developing lay theory. To explore how a lay theory may develop, I would like to identify pre-service teachers to engage in a longitudinal study of their lay theories of motivation from teacher education right on through to their early years in the classroom. The goal of this research would be to understand what a pre-service teacher's beginning lay theory may be and to see how it develops over time through coursework, internships, reflection, and other experiences and factors.

These two questions inform future research as I am to understand how lay theories develop. My research also found that some teachers' lay theories are stronger than others', so that raises the question of why some teachers think about motivation more than others. Possible explanations could stem from the teachers' own backgrounds, their coursework, or their students and school contexts. One of my research sites, Augustus Middle, is a Title I school for the current school year: does the school's status relate teacher beliefs about their students' expectancy for success? This research did not investigate that question, but future research should explore how teachers' lay theories interact with their school contexts. Another direction for research would be to identify an extreme case (Yin, 2009) of a teacher such as Athena and explore that case with a view to making recommendations for teacher education or professional development.

This research did not explore the possible impact of school context on teacher thinking about motivation, nor did it explore the possible impact of content area. All case study participants taught required courses, including Language Arts, Social Studies, and Science. Some teachers who completed the questionnaire in Phase I, and many pre-service teachers in the pilot study, teach elective subjects including art or music. Because my own interest in motivation is grounded in part in my background as a teacher of Latin, an elective subject, I would like to identify excellent teachers of elective subjects, such as music or a foreign language, and explore how a lay theory of motivation may be related to the success of their programs. I also wonder whether these teachers may place a greater emphasis on value on account of teaching elective subjects.

Along with future studies that include extreme cases of teachers with robust lay theories of motivation, I would like to design a study that includes student data as well. When a teacher has a strong lay theory of motivation, (how) does that impact students? For example, I could return to Athena's classroom and do a collective case study of six students: two low-achieving, two average-achieving, and two high-achieving. The purpose of such a study would be to understand the impact of a teacher's lay theory on representative students. The study could explore questions related to how students understand their own motivation, how they evaluate their teacher's thinking about motivation, and even whether the students, over time, continue to take courses related to the teacher's content area. Athena said that she wanted her students to love Science like she did. One indication of her success may be following her students into high school and

beyond to see whether they continue to take Science courses beyond those required or engage in other science-related pursuits.

I would like to continue to explore teacher thinking about student motivation in a range of content areas and school contexts. One school context that is becoming more and more popular is online learning. Innovations in technology and an emphasis on 21st-century skills create new vistas for teachers. Many teachers, even at the pre-collegiate level, are beginning to teach online. How is motivation part of online teaching? How does a teacher's lay theory of motivation develop or react to an online environment? And how do students in online classes describe motivation? I would like to identify an online teacher and do a case study parallel in design to this study with a shift in site from a face-to-face classroom to an online environment. Many teachers in this study understand motivation in terms of affective aspects of expectancy and in terms of belonging. How are those factors influenced by an online environment? Along with studying motivation with online teachers, I would like to study motivation among students whose entire schooling is online. How are their thoughts and concerns about motivation parallel to or different from peers in a traditional classroom setting? Such a line of research would complement the growing body of work on online teaching and learning.

Along with studying teachers and students, I will continue to research the constructs. In future research, I also will continue to explore the relationship among the domains of motivation. Pre-service teachers in my pilot study had forty-two unique profiles (for 48 participants) according to the coding of the data; teachers in this study yielded thirty-seven profiles (for 43 participants). When I looked at the three

questionnaire items focused most closely on the domains, pre-service teachers yielded fourteen profiles, while teachers yielded twenty-two. These profiles indicate that there are many ways in which teachers understand the domains to interact. Teachers in this study, as a group, defined motivation in terms of expectancy yet ranked belonging as more important than expectancy or value. These findings seemed to be imbalanced, so I asked case study participants to comment on how they saw the domains interacting. Their responses showed me how they understand the domains in relationship. Demeter, for example, sees the domains in a cycle. Athena foregrounds expectancy and supports that through belonging and, less prominently, value. Artemis and Hermes prioritize belonging and support it through expectancy. Further research needs to explore the relationship among the domains in a more specific manner.

Specifically, more research on belonging needs to be done. While seventeen of forty-three teachers (39.5 %) ranked belonging ahead of expectancy and value, three teachers' comments revealed that they did not understand belonging to be related to motivation. Research that builds on Faircloth (2009, 2012) needs to explore how academic tasks can "harness" students' identities and support belonging. Her research framework could be modified for a middle school context or for content areas outside of Language Arts. Researchers also need to distill major findings from belonging research to literature for pre-service teachers and teachers.

Conclusion

This study focused on teacher thinking about student motivation and found that teachers do think about motivation, in different ways, and to different extents. The

findings of the research allow me to respond to the research questions and also to understand implication for policy. Importantly, there are several implications of this study for teacher education and for future research on teachers' large-scale theories and thinking related to motivation.

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APPENDIX A

ITEMS ON THE QUESTIONNAIRE FOR THE PILOT STUDY

- a. Can I do this?
- b. Do I want to?
- c. Do I belong?

Please prioritize these questions; in other words, which question is most important for your students to ask about your course in why? Then please explain your thoughts on the other two questions.

What do you think motivation is?

How do you plan to bring aspects of your definition of motivation into your teaching?

What are obstacles to motivation in the classroom?

What would you consider to be evidence of motivation in your classroom? What does motivation look like, sound like, feel like?

APPENDIX B

PROTOCOL FOR INITIAL AND FINAL INTERVIEW

1. Tell me how you became a teacher (*initial interview only*).
2. Tell me about your experience teaching middle school. (*if participant did not speak to middle school in response to the first item*)
3. What is a typical school day like?
4. Tell me how motivation is part of your teaching. As you go through your day, how do you think about motivation, try to promote it, etc.? What sort of ideas, examples, or questions have you had?
5. When is a time that you felt that you have said or done something that clearly motivated students? How did you know?
6. Tell me about a student (or two or three) you have had who has/have been very motivated. How did you know? How much influence did you have?
7. Tell me about a student (or two or three) you have had who has/have been very unmotivated. How did you know? How much influence did you have? What did you try?
8. Tell me what you think about when you hear the word “unmotivated”.
9. (*initial interview only*) As we discussed, I plan to observe you teaching. What kinds of things related to motivation do you want me to see? Is there anything you would like me to look at during the observation?
10. Here is the written questionnaire that you completed earlier. As you look back at it, what thoughts come to mind? Is there anything you would change, add, or take away? (*If the teachers asks about her/his written questionnaire earlier in the interview, I will follow the teacher’s lead and take the questionnaire out at that point.*)

APPENDIX C

OBSERVATION PROTOCOL

In the initial interview, I asked each participant what s/he would like me to look for, and I used each teacher's input to focus the observations more specifically.

I mapped each classroom on my first day of observation, and any time that the classroom layout changes significantly, as with arrangement of desks, display of student work, display of other materials, and the like.

I used a three-column observation form: one column for time, one for running records, and one for in-the-moment notes.

Time	What Happens	Notes

With the sheet for running records, I also had a sheet with indicators for each category. This sheet helped me focus my observation and make sure to pay attention to certain factors of the lesson. The categories listed are a starting point rather than a definitive list of the only events I will observe.

Task/Activity	<ul style="list-style-type: none"> • Content (what the task is) • Product (what students do or produce) • Materials • Levels of Thinking (how students are asked to engage, make connections, think about relationships) • Scaffolding • Strategies (how teacher models and suggests strategies to students) • Messages (how teacher communicates about attributions, goals, expectancies, values, teacher expectations)
Authority	<ul style="list-style-type: none"> • Rules (who makes rules, what they are) • Autonomy (extent to which students have autonomy and how)
Recognition	<ul style="list-style-type: none"> • Appearance (what recognition looks like, sounds like) • Type (what type of recognition teacher gives)

	<ul style="list-style-type: none"> • Purpose (what is purpose of recognition: control, encouragement, etc.) • Social Comparison (how/whether teacher compares students in terms of habits, task, etc.)
Evaluation	<ul style="list-style-type: none"> • Formal/Summative Assessment (grades, projects, tasks) • Informal/Formative Assessment (ongoing assessment, verbal statements)
Time	(How time is used: in addition to running records with time, I will see how the time in class is divided by activity)
Social	<ul style="list-style-type: none"> • Teacher/student interactions • Social responsibility (how ideas about behaviors and rules are reinforced)
Messages	<p>Teacher statements related to:</p> <ul style="list-style-type: none"> • Expectancy • Value • Belonging • Mastery Goals • Performance Goals • Student behavior
Space	<ul style="list-style-type: none"> • How space is used (in addition to classroom map, whether students move around or move furniture) • Where teacher is (e.g. ,at desk, at front of room, in and around students)

APPENDIX D

PROTOCOL FOR POST-OBSERVATION INTERVIEW

1. Tell me about the lesson today; walk me through the lesson.
2. How did you decide what to do in the lesson?
3. Did you think about motivation before, during, and after the lesson?
4. You asked me to notice _____. (*I will make comments related to that topic.*) What did you think?
5. I am going to read from my notes (about part of the lesson). Tell me what you think when you hear this. (*I will select parts of my notes that are particularly interesting, revealing, or puzzling to me in order to get specific insight from the teacher.*)
6. Did anything happen that taught you something about motivation?
7. Is there anything you would like to ask me?